Role of Commercial Services in Conservation and Preservation

ROLE OF THE LIBRARY BINDER IN CONSERVATION AND PRESERVATION

I am here to represent library binders, a business that I have been in for over thirty-five years. Our industry is a small industry as industries go. It is about a 50-million-dollar industry which means that there are probably about 12 million or so volumes bound yearly and there are roughly twenty-five to thirty binders throughout the country.

Basically, our job is to handle current materials such as magazines, books, theses, and more recently, paperbacks. In this group there is quite a conglomeration of material. Here the concern is durability. We also handle semi-rare materials where the need is for mending, folding, hinging, laminating, and encapsulating. Recently, we have made a concerted effort to look at deacidification, but my hopes were somewhat dampened yesterday when I asked how many of you would be willing to move ahead with it and sign a release for responsibility of the results. I didn’t get much enthusiastic response from that request. As a complete library binder, our firm must be ready to take care of all of these categories of material and engage in all these processes.

We are well aware of the money crunch that libraries face. Libraries, on one hand, have to pay salaries and operating costs, while on the other hand, they have to pay for acquisitions and binding costs. Because the binding business is so labor-intensive (there are about forty-two individual operations that go into binding each book and magazine), we’re trying to become more standardized in order to bring more economy into the picture. Up to now, the oversewing process, which sewed tight bindings, has
been an accepted standard and we have not been able to compensate for the problems of oversewing—problems which have been complained about by archivists, conservationists, and bibliophiles for a long time. Of late, we are doing much more with adhesive binding which promises to be a dramatic new development and to compensate for some of the difficulties of oversewing. At the conservation fair this evening, we will have on display some volumes to which the new adhesive has been applied. What we like about the volumes which have been bound in this way is that the volume will lie perfectly flat without stress on the hinge when the volume is placed on a photocopying machine.

Briefly and basically, this is what a commercial library binder does. We have been at this work for nearly 100 years or so. There are many new developments on the scene and we are trying to adjust to them and to use them as fast as possible to serve you better.

WILLIAM ANTHONY
Partner
Kner and Anthony, Bookbinders
Chicago, Illinois

ROLE OF THE HAND BINDER IN CONSERVATION AND PRESERVATION

My business is the preservation of books and documents. I have a small studio in Chicago which employs two people in the bindery, David Brock and Mark Esser. David is in the fifth year of his apprenticeship and Mark has been with me for about nine months. My wife, Bernie, comes in to help in the office.

In addition to preservation work we bind fine bindings and limited editions from private presses. For the purpose of this talk, I will stay with preservation work.

Our customers are custodians of special collections in university libraries and other institutions, private collectors, and people who have books that are very special to them.

Private collectors and people with special books usually come to the studio where I examine their books, recommend treatment and explain what is involved, answer any questions they might have and quote them a price. Because of the small number of books usually involved, it is no problem for them to bring the books to the studio.

In dealing with library special collections, there are more books involved and many more people. There may be as many as six people
working in a special collections department, all of whom are interested in the preservation of their collection. Because so many books and people are involved, I like to go to the library and pick up books in need of preservation treatment and deliver books on which I've worked.

The books to be worked on have been chosen before I get there. We take each book separately and discuss what has to be done. We then examine the books that I have brought back and discuss thoroughly the work that has been done. This way the people in the library gain some understanding of what is involved in book preservation.

Generally speaking, books in need of preservation treatment fall into two categories: books with brittle paper and books with flexible paper. Books with brittle paper are mostly from the eighteenth, nineteenth and twentieth centuries. Books with flexible paper are from the fifteenth, sixteenth and seventeenth centuries.

A thorough examination of the book reveals the condition of the paper, the condition of the cover and the condition of the construction. With this information, the curator or owner with the binder decide on the best way to preserve the book.

I would like to describe for you a couple of fairly common preservation problems that are encountered in the studio and how we deal with them.

Conservation means preserving the artifact in its present condition, in which case a drop spine box may be the answer; however, the book is an object which has to function in order to be useful so that, in most cases, anything from minor repair to complete rebinding is necessary.

A fairly common case for preservation might be a nineteenth-century book with brittle paper. Examination reveals that the leather has deteriorated due to red rot. Both boards are broken at the hinges and the paper is brittle and has a pH of 4. In addition to the slips being broken the sewing is weak and broken and the spine has been glued up with acidic animal glue. If the book is very valuable to the collection and a better copy cannot be obtained, an extremely conservative binding may be possible. This binding is designed to do as little damage as possible to the book block and to function with as little strain as possible on the paper.

The book, then, is carefully disbound by pulling the sections from the sewing. Because of the acidic glue on the spine, the outer sheets of each section may break; possibly more than the outer sheet may break. After pulling, the sections are washed in warm water. When the folds of the sections are weak and possibly held together by glue that has penetrated the sewing holes, I wash the book in sections rather than in single sheets. I do this by folding polyester film called "Remey" and placing a folded piece somewhat larger than the sheets of the book into the center of each section and then place the sections in the water. When the sections have been
thoroughly washed and rehydrated, I remove them from the water and allow them to drain before placing them into the deacidifying solution. For this purpose we use magnesium bicarbonate or calcium hydroxide. I find calcium hydroxide easier to use and it gives a higher pH than magnesium bicarbonate. If the sheets being deacidified have colored inks, then magnesium bicarbonate is the better solution.

After soaking thoroughly in the solution, the sections are removed by the supporting Remey and air dried. They are then collated and lightly pressed. The successful collation of the sheets at this stage may depend on how well loose sheets and unnumbered sheets at the beginning and end of the book were marked before the book was pulled.

The sheets are examined for tears and mended with Japanese paper and acid free wheat paste. Torn folds are mended and reinforced with wet-torn Japanese paper.

When dry, the book is ready for sewing. The original binding may have been sewn flexible on raised cords or it may have been sewn on recessed cords. Neither method may now be considered suitable because flexible sewing imposes too great a strain on the weak paper and recessed sewing is destructive to the paper. The sewing which is most compatible with the weak paper may be sewing on linen tapes or frayed out hemp cords. This method of sewing is flush with the spine and allows the spine to open and close with a minimum of strain.

The "gluing up" of the spine is done with a mixture of wheat paste and methyl cellulose. The methyl cellulose tends to add flexibility to the paste. Flexible polyvinyl acetate (PVA) is the modern glue designed for this purpose. I don't use it directly on the spine because it is not water soluble and would, therefore, make reversing the binding extremely difficult, if not impossible. Either of these adhesives are stronger than paste on this most vulnerable part of the binding but, on balance, the book block will last longer by using a reversible adhesive.

The sewing of endbands on this delicate paper would further damage the paper and add no strength to the binding. In this case, I favor headbands made by rolling natural linen around hemp or linen to form the end bands and then adhere them to the spine.

A spine lining of Japanese paper is pasted directly to the spine, again using a mixture of paste and methyl cellulose. When dry, a coat of diluted PVA is applied to the Japanese paper. This helps to keep the spine flexible. A hollow or tube is then made and attached to the spine. The book block is now forwarded and ready for covering. This may be done by lacing on the boards and covering or by making a case.

I favor natural linen and handmade paper for this purpose because they are strong and durable. If the paper is decorated with colored paste and used with linen it can be harmonious with paper from any period.
With this book we have recognized that the book block is brittle and weak and we have designed a binding that has been as conservative and harmonious as possible. I consider it advisable to protect such a binding further in a drop spine box.

Another common problem is the book that is in need of rebacking. The most vulnerable part of the book is the spine, and particularly the hinge area. If the boards have become detached, this means that the covering material has broken, the inner hinge of paper, cloth or leather has broken, and the slips that have been laced into the boards have broken. Probably damage has been done to the first and last sections of the book. These sections are removed and carefully marked so that their sequence will not be lost. They may be washed and deacidified and mended with Japanese paper.

Next, we remove the spine. This is easy to do on a hollow back or tube spine but not so easy when the leather has been directly adhered to the spine. If the leather is weak and crumpling, then, we brush a liquid called Pliantex on the leather. This consolidates the fibers and enables us to pry the leather off with scalpels and folders. When the leather has been removed, the spine is paste washed and cleaned. All of this work on the spine is done with the utmost care for the sewing.

The sewing structure is examined and breaks and weaknesses repaired. New slips are added by oversewing new hemp cords to the old ones.

The damaged first and last sections have now been repaired and are sewn to the new slips. New linen endbands are sewn on and the spine is lined. We are now ready to attach the new leather spine.

The boards are prepared by lifting the leather from the back edges and by lifting the paste down from the inside back edges of the boards. The boards are put in place on the book and then held in a press. The leather is pared and pasted and carefully attached to the spine and inserted under the lifted leather on each board.

The ends are turned in and the headcaps are set. When dry, the boards are opened and a linen hinge, which has been wrapped around the repaired sections, is pasted down under the lifted paste down. Then the lifted paste down is pasted on the new hinge and the lifted leather is put down on the new leather. The old spine is attached to the new spine and the rebacking is finished.

I have described to you two of the most common book preservation techniques we use. In order to become familiar with these and many other preservation techniques I advise you to communicate with your binder and even take lessons from him/her if possible.

In addition to the many preservation techniques needed for the conservation and restoration of the variety of books that come to the studio, I
would like to mention that we also preserve documents. We do this by washing, deacidifying and encapsulating in Mylar. A method I particularly like, especially with letters, is to lay the letter on an acid free board under a Mylar flap.

LEEDOM KETTELL
President and Chief Operating Officer
Gaylord Bros., Inc.
Syracuse, New York

ROLE OF THE LIBRARY SUPPLY HOUSE IN CONSERVATION AND PRESERVATION

Gaylord Bros., Inc. has existed for eighty-five years. However, I haven’t. I’ve been with Gaylord only two years, coming from two other corporate experiences, eleven years with Xerox (a great portion of that time with University Microfilms) and, then, with Brodart. One of the things that Gaylord has had to do as a relatively older company, that is now caught up in the tremendous change in the technological processes that librarians are using, and at the same time lack of growing budgets, is to go through a planning process, the same kind of planning process that many of you wrestle with every year. Especially, we have had to do this a great deal over the last six months, in an attempt to redescribe to ourselves who we are, what we are, and what we would like to be. Eighty-five years ago, the two Gaylord brothers would go out to talk with librarians in an attempt to understand their needs for supply-type items. They would then go back to their place of business, take a largely paper product and twist it around into a different shape, print something on it, and they had a new product for librarians. Unfortunately today we’re dealing with plastics, metals, microprocessors, the need for acid free paper, and a whole host of technologies for which our small company and the library market cannot afford original R&D. So we are defining ourselves as a vendor, a distributor of products, in the same way that Sears might be described as a vendor of products. We like to be a very credible company, concentrating on the library marketplace. Because we are a credible company we have very good relationships with a number of very large companies, including IBM, Xerox, Kodak, 3M, etc. These companies, of course, have substantial research and development budgets. So, we are increasingly trying to define our company as an interpreter of technology. We try to understand what
some of these larger companies are doing and, then, use their new technologies to help librarians.

Today I'd like to talk about one such technology which, I think, will be an interesting one for you. First of all, I would mention that there have been a number of companies that sell products such as pamphlet binders and boxes of all shapes made from acid free paper used to store the documents you have in the library. While companies such as Gaylord, University Products, and Hollinger make a good-quality product for these purposes, we, at Gaylord, believe that some things happen in the paper industry that are real problems. First of all, simply defining what is acid free paper is somewhat of a controversial issue. How have you buffered it? Are you talking about the liner? Are you talking about the board itself? Do you have some form of glue or joining device in it which can ruin the neutrality of the materials? Also, paper is absorbent; over the years it might absorb the water vapor and the acids that are in the air itself. So we believe that there is a problem with products that any vendor sells as acid free. We know that paper prices have gone up greatly in the past ten years and, by the very nature of our society, and by the nature of the paper and pulp industry, we believe prices for paper are going to accelerate very rapidly in the next few years. At Gaylord, we have explored making storage boxes out of a different material. We believe a plastic that is called polypropylene will be of great interest to you. This plastic product is made from a natural gas and talc which are both raw materials quite available here in the United States; therefore, we do not have to be worried about importing oil and getting cut off in the event of war.

Polypropylene has very interesting properties. First of all, it is totally inert, therefore acidity is simply not relevant. It is neither acidic nor alkaline and never can be. It has very high temperature resistance. You can actually sterilize this material at 250 degrees and you will not damage it. It has great resistance to absorption of water vapor—about as great as any material that we are able to find—so we think that will be of great use in library preservation work. The material can also be configured in virtually any shape that you might want to have. By indenting the material as it is formed, you can change the strength and flexibility of the material. You can also add different additives to make it more or less flexible. You can color it in almost any way that you might possibly want, and it has the feature called a living hinge. When this material is compressed, it actually changes the molecular configuration so that this hinge can be flexed thousands and thousands of times. You are not going to have the problem of the lid of the box coming off in your hand—it will last as long as the material itself. The material can also be textured so that if you want it slick, we can make that; if you want it to have a woodgrained type of pattern, we
can do that. We can print on it. By ourselves, we could not afford to develop this technology because it is a multimillion-dollar investment, not only investing in the plastic production itself, but also in the extrusion devices that are used to melt it and form sheets and to vacuum form it into useful products that you would want to buy; therefore we are in the process of making arrangements with other companies to work with us to make the product available. After working with the product for two years, we believe that we will have this material on the market, thoroughly tested, within six months.

Other fields such as the medical field are increasingly substituting polypropolene for materials such as glass, paper, and metal. In medicine, operating room trays, packages, kits, and so forth, are made of polypropolene because of its inherent high resistance to chemicals, solvents, and bacterial development. Polypropolene containerization of pharmaceuticals is common now due to high temperature resistance combined with unusually low water absorption and moisture vapor permeability. These are vital characteristics to effective storage of pills, powders, capsules, and medicines. This is material that has passed the stringent requirements of the medical profession.

In another difficult area, food packaging demands are met more favorably with polypropolene than with any other plastic resin. It meets the requirements of the U.S. Food and Drug Administration as specified in the Code of Federal Regulations, no. 21, for the safe use of articles intended for repeated use applications. Again, the inherent inertness of the material makes it resistant to oils, acids, alkalines, and practically all chemicals. Food products successfully contained in polypropolene include dairy products, fruit juices, vegetables, toppings, and syrups.

We believe that the use of polypropolene is more cost-effective than any other polymer, and competes economically with all traditionally used materials. Physical properties of polypropolene can be readily changed by varying amounts of additives to obtain precise properties of impact resistance, tensile strength, and flexural modules. Tailoring polypropolene to specific products and uses is relatively simple. For example, it is possible to achieve optimized balances of stiffness, impact resistance, or resistance to heat aging, plus resistance to solvents, chemicals and environmental stress cracking. This is accomplished by well-known, proven procedural methods. When you look at some samples this evening you will notice that we have used a sonic welding to put in an adhesive strip. This will be used for pamphlet binders. Sonic welding is a very permanent method of adhering two products together. Before we bring the product out, we will do careful testing of the adhesive to make sure that it is non-damaging to paper.
In summary, we believe this material, polypropolene, will have a significant impact on libraries because it is totally intert. It can be shipped flat so it will save cost in transportation. We believe that it will be priced competitively with the paper products as we know them today. The living hinge will last as long as the product. We can use sonic welding techniques to reduce the labor involved when we make the product, and to improve its strength. The product is extremely heat resistant and can be actually sterilized at temperatures of up to 250 degrees. It is moisture resistant and very long-lasting. It can be attractively produced, and its raw materials are readily available. There is, however, one problem whenever you deal with this technology. Set-up costs are somewhat high, making it prohibitively expensive to produce only a few of any one particular product. We have to participate with some of the consumer industries and add our demands to part of their run. Therefore, one difficulty with this product is that we will not be able to offer the great range of sizes and shapes that we might be able to offer in a paper product. We will probably pick the most popular sizes and shapes, make those out of this particular product, and work our way through this as best we can. We believe that will be the only disadvantage of this product and we will have it available for marketing to you in 1982.

ANITA WERLING
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University Microfilms International
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ROLE OF THE MICROPUBLISHER IN CONSERVATION AND PRESERVATION

I must say that after listening to my colleagues from the commercial end I feel somewhat in a "bind," especially since I represent a company concerned with microfilming which is frequently touted as an alternative to binding of current serial materials and as an alternative method of preserving information as opposed to restoring the object itself. While microfilming has been around for a long time, commercial application of microfilming for libraries really dates back only to the 1930s. This also marks the beginning of the use of microforms for preservation of library materials. Newspapers were one of the first items that went under the camera, so to speak, the reasons being primarily because the paper is highly acidic and becomes brittle, and because newspapers are very difficult to bind under any circumstances.
It was also late in the decade of the thirties that commercial micropublishers made their appearance. University Microfilms International (UMI), the company that I represent, is the oldest of the commercial micropublishers, having been founded in 1938; Readex Microprint was founded late in the next decade. These companies, and others which came on the scene later, are involved in the commercial publishing of materials on microfilm, or in many cases, the republishing of materials that have previously been published, and offering them in a different medium. The objective is not primarily that of preservation—micropublishing has a profit motive behind it—but the by-products of the filming of large retrospective sets of materials such as the Early American Imprints Project offered by Readex, or the Early English Books projects offered by University Microfilms, have in fact resulted in the preservation of information and the preservation of the cultural heritage of virtually all early British and American imprints. So preservation is an added benefit of micropublishing. The medium of microfilm has made proliferation and dissemination of the materials economically feasible in a format that can be purchased readily by libraries and which also enables users to handle the materials without risk of damage to the originals.

Today, there are literally hundreds of commercial micropublishers. In addition there are several hundred other commercial microfilming companies. The distinction here is similar to the difference between a printing shop and a publisher. That is basically what a commercial microfilming service is in comparison to a commercial micropublisher. The publishing involves adding value. The added value might be the editorial selection of the materials that are going to be filmed, or a unique arrangement of the materials. It may be added access to the materials that the publisher provides through indexes or guides to the product. The commercial microfilming firm, like the printshop or commercial printer, makes its profit from the filming itself. The commercial micropublisher, on the other hand, is also interested in disseminating and marketing the materials, so the economic motive is somewhat different—dissemination and distribution is the aim of the publisher—which means that there must be some added value to the product. Sometimes both services are offered under the same roof. A micropublishing company may provide some commercial filming operations, or may handle some jobs on a custom basis where the intent is not to market the product but simply to film and preserve it. We have one such project at University Microfilms which has been under way for several decades and which is one of the preservation microfilming projects which has received widespread attention. This involves the filming of monastic manuscripts under the auspices of St. John's University in Collegeville, Minnesota. Thousands of medieval manuscripts, many of them illuminated, have been filmed in both color and black and white.
from a number of monasteries throughout Europe and North Africa. University Microfilms provides technical training and assistance for this project, inspecting and storing all of the master microfilms. We also produce distribution copies for this project upon directives from St. John's. We do not market the materials ourselves but do provide storage for all of their masters in our vaults.

The micropublisher and the commercial microfilmer are in business to make money. For the micropublisher the only way to do that is to publish those projects which have the greatest potential for success. That is, the projects for which there is market need. Once filmed, the materials are preserved as long as the master negative is preserved and kept in archival conditions. Unfortunately we have found, in many cases, that once we have filmed projects and offered them for sale, there is no longer an immediate need for the customer to buy them since the materials are now preserved, and the microfilm is going to be around for a long time. You can buy it today; you can buy it tomorrow; you can buy it five or ten years from now! Therefore, one of the great added benefits of microfilm can also become, in some cases, a detriment to the micropublisher. A publisher, then, has to be concerned about raising the priority of purchase for the issued products.

In fact, I think we have seen in recent years that the micropublishing industry, as a whole, has become more concerned with doing as much as possible to produce products which have more immediate impact for libraries and institutions. One way, of course, of doing this is to provide additional value—that of improved access to the materials themselves. Bibliographic control has become a major issue for the micropublishing industry and, of course, for libraries. One way to enhance the value of the product is to make sure that as much access as can possibly be afforded has been provided. That means cataloging monographic and serial collections and making that cataloging data as widely available as possible. And it means indexing at a fairly specific level the nonmonographic or serial projects (archival collections, for example). It means selecting a format that is going to be the most usable format for a particular application. What it all boils down to is trying to make the product match the end users' needs and trying to make sure that once on film, the materials can be retrieved quickly and easily.

In recent years at University Microfilms we have spent a great deal of time and effort in providing bibliographic control for our products. And, to give you some ideas as to how costly this actually is, we have frequently found that in our operations the access is anywhere from 4 to 5 times more costly than the actual filming of materials. Providing access is critical, nonetheless, because if the customer doesn't know what we have filmed, obviously, the customer can't purchase our microfilm. In addition, biblio-
graphic control reduces the amount of duplicated effort among micropublishers and private institutions in filming of the same item more than once. The National Register of Microfilm Masters, and other tools of this sort which identify microfilmed titles, have gone a long way to cut down on the duplication of filming activity.

What materials are ripe for preservation filming, or microfilming in general? Basically, any materials that have an image content can be considered for microfilming. This includes books, printed materials, manuscript materials, archival collections of documents and letters, etc., or visual collections, such as photographs, prints, maps. The decision on whether to preserve by microfilming or by conserving is never an easy one, because the value of the original as an object has to be assessed as well as the informational value of the material. For materials which cannot be restored, the choice may become one of whether to preserve the information or to conserve or preserve the object. If an item has deteriorated to the point where filming might completely destroy it, do you save the object or do you save the information? This difficult decision usually rests in the hands of librarians trained to assess these various issues. Fortunately, the alternatives are usually not that drastic, and the decision is one of whether the original can be saved by rebinding, preserving the original through deacidification, or replacing the deteriorated binding, while at the same time perhaps microfilming the item to provide a use copy which will prevent further unnecessary handling of the original. Frequently, microfilming can also be used to make a complete edition of a work from several imperfect copies that are in institutions scattered over wide distances. So there are a number of applications for microfilming that make the value of microfilming in preservation something to consider.

How do you decide whether to microfilm locally or whether to go to a commercial microfilmer, or to a micropublisher? Under what circumstances is one more desirable than another? This is a very complex issue and one that we could discuss at great length. It's very expensive to set up a local preservation microfilming operation, as many of you can attest, but frequently this is the best means of preserving the materials that are not likely to be picked up by a commercial micropublisher. If there are widespread applications in your institution for microfilming of rare or other materials that are not widely available elsewhere, then setting up your own in-house operation might be the best way to go. Or, perhaps a commercial microfilming company is the answer for materials which cannot be marketed or for which dissemination is really not a factor. Where there is an interest in making material available to other institutions, and in preserving or rearranging materials on microfilm, then it is a good idea to talk to one or more micropublishers to explore the idea of publishing a particular collection of materials.
To give you an idea of the variety of collections that University Microfilms is considering or is publishing this year and in the year ahead, I would first mention the filming and indexing of the Archives of the United Negro College Fund (UNCF), which will result in the availability of a unique collection which has resided, until this point in time, only at the headquarters of the UNCF. We are also releasing a very large collection of nursing materials—the History of Nursing and the Nursing Education Archives of Teachers College, Columbia University. This past year we filmed and introduced the Photographic Views of New York City—a collection of 54,000 photographs taken over the last century representing the growth and development of the city, fully indexed and with the images now preserved. One of the major interests of the New York Public Library in having that collection filmed by University Microfilms was in providing a use copy so that patrons could consult a microfiche edition that serves as a visual index to the photograph collection. The users are able to select prints that they want the Library to reproduce without actually handling the original prints.

These, then, are some of UMI's recent applications of microfilming for preservation and for dissemination. Those of you who are in charge of collections or trying to decide which part of that collection should be preserved by microfilming certainly have quite a challenge ahead. If there are potential applications that University Microfilms can help you with, we would be happy to discuss them.

DISCUSSION

William T Henderson (Library, University of Illinois at Urbana-Champaign): It occurs to me that these four people have just proven one of my points in my presentation of this morning—i.e., in preservation, we keep the old and bring the new along with us.

Kenneth Lavendar (North Texas State University, Denton): The title of this institute is "Conserving and Preserving Library Materials." The title of the panel discussion is the role of commercial services in conservation and preservation. Mr. Anthony, in his talk, defined conservation as the preservation of material in its present state. Could you talk to the distinction between preservation and conservation?

Henderson: A couple of us who have written papers for this conference talked about this earlier today. We concluded that we tend to use preservation and conservation interchangeably—one term relieves the other if it seemed like we were getting a bit monotonous in the use of it in our manuscripts. I think you can make some subtle distinctions; if we had a
dictionary here we could probably do it. Conservation is literally saving what you have in the way it is. There's a difference between conservation and preservation but the difference is a subtle one, and we're literally doing both. I see that Pam Darling is going to the microphone and she probably is the one who can define these terms.

Pamela Darling (Association of Research Libraries): This is, as everyone knows, a perennial question and I think we're coming closer to an answer than we have been up until now. It seems to me that if you look through the literature and in what has come to be more common usage now, preservation is the broader term. Conservation, it seems to me, relates chiefly to those activities dealing with the care and treatment of the artifact. Preservation encompasses that as well as all of the other programs for care, handling, and replacement, brittle books programs, as well as the administration of all of the activities within a library that bear upon the condition of the collections. Now, you will sometimes find the terms defined in the literature in a reverse way. That is, there are some who say conservation is the broader term. However, it seems the preponderance of evidence is moving toward preservation as being the broader term. The fact that we use the term *conservation* to mean the person who deals in a hands-on way with the artifact, helps, I think, to confirm that. It will probably be another couple of years before we have really settled on that, but it seems to me that it is definitely going in that direction.

James Orr (Hertzberg-New Method, Inc., Jacksonville, Illinois): I am going to turn it around a little bit. Maybe I could ask a question of you folks. When you send your work to a commercial bindery, do you send it to preserve it or do you send it to conserve it? Which of those two do you put the emphasis on, or do you?

Unidentified: To restore it.

Orr: What's your definition of restoration? (*Editors' note*: No response came.)

Philip Metzger (School of Medicine, Southern Illinois University at Carbondale): I have a question for Mr. Orr about oversewing. We haven't heard too many kind words about oversewing lately, as you hinted, and, I think most of us would agree that oversewing is great for materials that will never be used once they are put on the shelf, but the process of using an oversewn book contributes to its destruction. Would you care to comment on that and say something about the future of oversewing?

Orr: Yes, I would. First of all, I hope that when you think of a commercial binder you don't automatically think of oversewing because there are a number of other ways to bind a book. There is hand oversewing, or through sewing to tape, through sewing the core, and, of late, adhesive
binding. When the oversewing method was invented, binders, and probably people in the libraries, thought it was the greatest thing since sliced bread, because it was extremely strong. It is strong binding but to oversew you must perforate each section from the top and the needles come up from the bottom, sewing section to section, so in essence what you have is a perforated section. Granted, if that paper becomes weak and acidic throughout its lifetime, the book isn’t going to be all that strong. Now, of late, there are a lot of improvements in adhesives. When I’m talking about adhesives, I’m not talking about a hot melt (used by a lot of publishers and some binders). Hot melt has a memory and you can’t round it and back it for a scoring action. We have been using a polyvinyl that is put on in a fanning method. It is put on much as in the European process where they use an Ehlermann machine. Of course, we have a certain combination of how we make the mixture. Of late we’ve been using it on very coated stocks, something unheard of before—and it works very well. So, to answer your question precisely, I can see the industry leaning to adhesive binding, and of late, I’ve been through other binderies and I have seen the same indications in those plants where they are starting to get in adhesive equipment and rely more on adhesive binding. We’ve been doing it for a long time now for books that have extremely narrow margins where there’s no place to go regardless of whether you sew it by hand or hand oversew it, or whatever. There, the only thing that you can do is use an adhesive binding. There was some skepticism when adhesive bindings came out and I know they refer to adhesive binding as “perfect” binding. “Perfect” binding is a carry-over from the old days and has a bad connotation. So I like to call it adhesive binding and we, personally, put a guarantee on it—an unconditional guarantee—that this book is going to stand up just like any other book that we put out. That’s how sure we are of it.

*Heinke Pensky-Adams* (Monastery Hill Bindery, Chicago, Illinois): I have a question for Mr. Orr. What took you so long to get this message to this country? I know this adhesive has been used in Europe for about twenty years.

**Orr:** Binders are very slow to move. Our association has been very slow to move and adopt any new changes. You’re right! Before we adopted it, it was being used in Europe for five years prior to the time that we had it. Now that we’re moving, we hope we can keep the ball rolling and the momentum up and that is where we intend to go.

*D.W. Krummel* (Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign): In all fairness, you had a legendary freeze in New York State to worry about, didn’t you? In the late fifties wasn’t there a scandal—perfect bound books rendered useless because the freeze had destroyed the binding substance?
Orr: We didn't start to use this until 1961 when we used it on our paperback books. And, as everybody knows, the paperback was much smaller in format and the results were extremely good so we began to branch out into other books, and then into magazines. We didn't really start on magazines until maybe the late sixties. The only thing I can tell you about a freeze in the adhesive is that, when it is shipped, we can't ship it in the winter. We won't take it in the wintertime. It has to be very carefully guarded and not allowed to freeze.

John Thompson (Billy Graham Center Library, Wheaton College, Wheaton, Illinois): Most library bindings that I've been experienced with come back in buckram. Recently our binder has started to supply us with a synthetic book cloth. I believe it's produced by 3M. I was wondering if anyone is familiar with any tests performed on this.

Orr: I have similar material right here. It's a type two material. We've tested it in the Universal Book Tester and the only thing that I can tell you is that the results have been extremely favorable and have compared equally well to buckram.

Henderson: On my office shelves, I have some samples of both this material and buckram that have been through his book tester. If any of you want to see them, you may do so. They wear a little bit differently but they wear about equally on either material.

Anthony Amodeo (Newberry Library, Chicago, Illinois): This is for Ms. Werling. We tried to do a project at the Newberry Library filming pre-1500 manuscripts, and, because of the tight bindings, we were restricted in the number that we were able to do. I'm wondering how you handle bindings that are tight. Do you have a cradle of some sort that takes 90-degree exposures, and if so, would your company be willing to rent it?

Anita Werling (University Microfilms International): We do have a cradle camera that was designed for the filming of just the type of book that you described. We do have a number of those holders. Certainly I'd be happy to talk with you afterward about whether such arrangements could be made. But the camera bed itself is designed to hold the book at an opening that is slightly greater than ninety degrees, and pivots the volume in such a way that it is then raised up against a flat glass plate and held there with just enough pressure to keep the page flat against the glass surface. We used this particular camera very successfully in the filming of dime novels at the University of Minnesota. And, as many of you are aware, the typical condition of dime novel collections, from the 1860s and 1870s, is that the paper was very high in acid. It was newsprint, basically. The materials are, in most cases, extremely brittle. If you touch them to read them, you've got crumbs all over the floor. We were able to film quite successfully with very little additional damage to these materials and that's an extreme case.
Amodeo: You don't manufacture this yourself, though?
Werling: We did manufacture it ourselves, but we have made only two or three beds for specific applications. It may be possible to arrange for use of them elsewhere.