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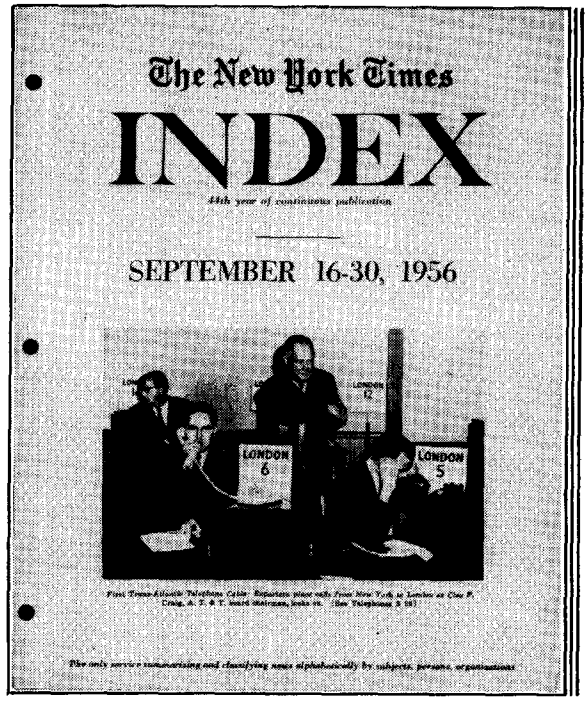
GRAPHIC MATERIALS

In The Library



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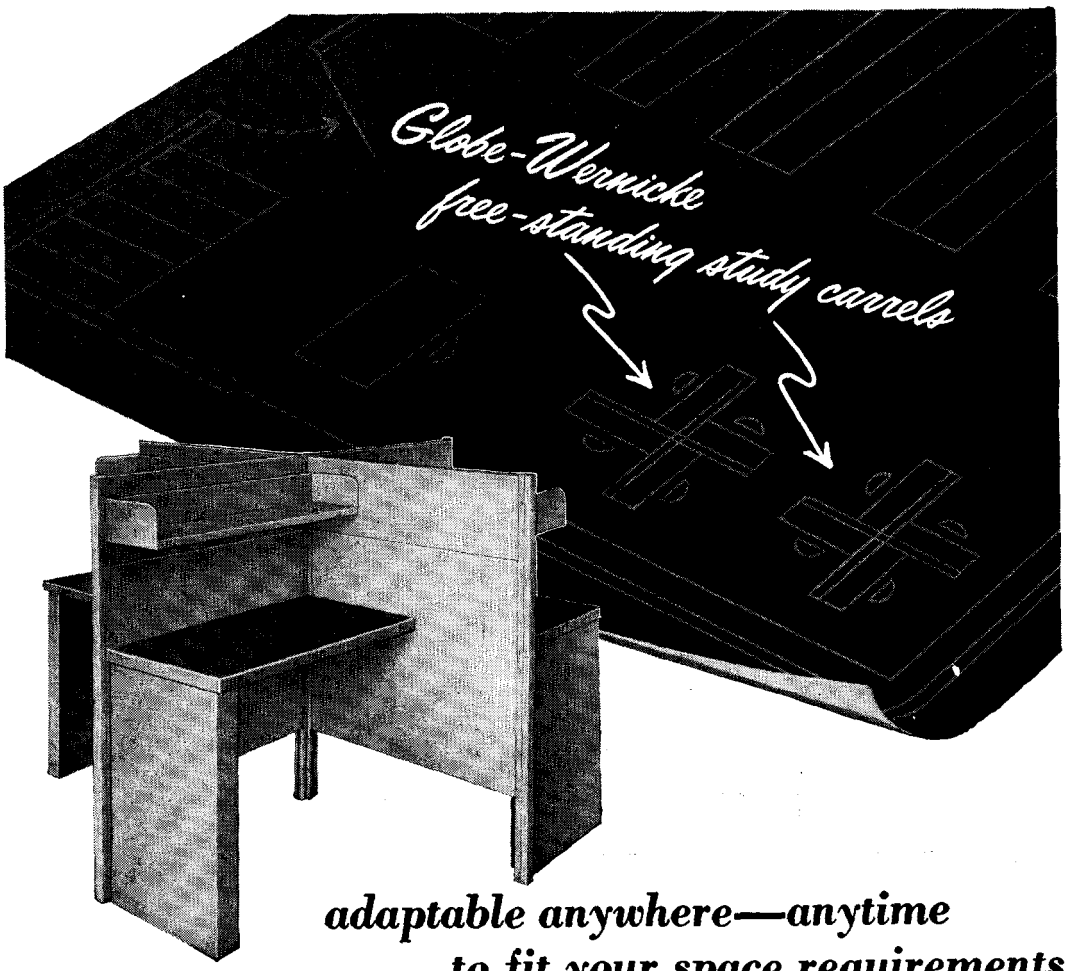

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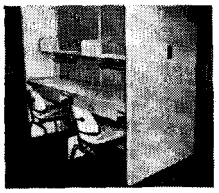

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Preservation And Restoration Of Library Materials

MARGARET SCRIVEN, Librarian
Chicago Historical Society, Chicago, Illinois

LET IT BE KNOWN first that I am not an expert in the repair and restoration of documents. Sixteenth and eighteenth century papers look alike to me, and while I can usually distinguish between modern pulp paper and old rag, I do not expect anyone to take my word in the matter as gospel. (In truth, many do not. If I say that a particular issue of the *Ulster County Gazette* is a reprint, the owner is likely to ask if there isn't some other place he can go to get an opinion.)

I know glue from paste but not one paste from another; we use one of the plastic adhesives, but I could not say which of them is best; I do not know phosphates from nitrates from acetates; I do not know iron gall ink from Prussian blue; I know that some faded inks can be restored but I do not know which; I know acidity only by repute (ill); I have not had to reckon with worm holes; and because in our library we leave the binding of books to binders, I know precious little about the work involved.

This is a great deal to be ignorant of, since all of these details are pertinent to restoration. They may, at first, seem a little esoteric, but all of them, except the worm holes, have turned up in our library in connection with the repair and restoration of manuscript letters and documents, carbon copies of letters, books, pamphlets, newspapers, sheet music, broadsides and posters, maps, prints, and photographs.

Fortunately, there are people who are conversant with all these matters, people who not only work intelligently and skilfully as a result of study and experience but who are generous with their help. It was on the advice of one of them that I nervously placed my first map into a panful of water and washed my first leather-bound book with soap. It is some of the good advice I have had that I am going to try to pass on to others.

Basic Rules Of Good Care

I assume that librarians want certain of their documents to last forever—not so silly as it sounds in view of the medieval manuscript books and the printed books which have lasted more than 500 years.

Good paper is durable, given reasonable care, and most poor paper can be preserved. Reasonable care is simple enough. Everybody knows that paper tears in the creases when it is folded and unfolded; that the sun fades writing and print; that dust and grime are, at best, unsightly; that water can be damaging, excessive heat drying and fire destructive. Therefore, store sheets flat, without folds; keep them out of the light; protect them against dust; and avoid heat, flood and fire. Granted such care and not too much handling, almost nothing would need repair, and while the atmosphere cannot always be

Paper presented before the Picture and Insurance Divisions, June 4, 1956, at the SLA Annual Convention in Pittsburgh, Pennsylvania.

controlled nor disasters avoided, good habits can prevent much deterioration.

Of course *we* are careful today, but others sometimes were not. What can be done now?

First, repair only what needs repair. The fact that a certificate or letter or catalog is old does not mean that it needs restoration. If an old piece is in good condition and is not handled much, leave it alone.

Cleaning, Pressing And Storing

A dusty document should be cleaned before it is put away. For this try wallpaper cleaner. Do not apply too much pressure and work toward the edges of the paper; use short, light strokes on the edges, where wear is usually greatest, to avoid pulling off little sections of paper. Be sure to brush off the crumbled pieces of cleaner; left on, they may make little oil spots. Wallpaper cleaner can be used on anything made of paper—letters, charters, certificates, posters, maps, pamphlets, magazines, —but rub lightly and watch the edges.

If there are soiled places that the wallpaper cleaner will not remove, try soap eraser; rub in one direction and use care at the edges. On stubborn spots that remain, a pencil eraser may help. If the document is not clean by this time, stop. Go no further. There may be other things that can be done, but you and I do not know enough about paper and chemicals to do them. Leave the document as it is or call in an expert.

If a document has been folded or rolled, it should be pressed before it is stored. Ideally, it would be cleaned, soaked in water, dried a little, put between white blotters, and pressed. If this is frightening (watercolor runs and so do some inks) or the necessary equipment is not available, try pressing the piece dry. Lay it flat, put a clean piece of paper over it—not newspaper —and place on that, side by side, as many heavy telephone books or encyclopedia volumes as needed. Forget about it for three or four weeks. If at the end of that time there is not enough improvement, smooth out the piece, put back the paper and the tomes, and go about your business for three or four more weeks. Then if you are not satisfied, either put the piece away, hoping that in time it will flatten out, or call in an expert.

Suppose you *are* satisfied with your work and are ready to store the document. Letter-size ones can go into folders in a filing cabinet, with a second folder placed over the first and folded at the top, to keep out dust. If drawers are not available for the flat storage of larger pieces, these should be put between all-rag cardboard — all-rag because most other boards have impurities which affect paper that is in contact with it and because most cardboard becomes brittle and cracks with handling, breaking the document too.

In the event that all-rag board is not available—it is difficult to buy in small quantities—other materials may be substituted. Cover the document, front and back, with ledger paper (this has a high rag content) or with good quality white blotters, cutting the paper or blotters a little larger than the document. Put the covered document between two pieces of the best board obtainable and wrap the whole. Label it with a heavy pencil, or better, with crayon or crayon pencil (dusty, rubbed, illegible lead pencil markings are exasperating), and store it flat—not on edge. Do not put it over a radiator. Ideal temperature for storage is 68-70 degrees, with humidity at about 50 percent.

Importance Of Protective Cases

Bound volumes, groups of pamphlets and other unbound materials can be protected against dust, wear, fading and careless cleaning by putting them in protective cases. A protective case may be a simple box, covered with buckram and open at one end; it may be a box within a box, the inner one lined with flannel; it may be a folder within a box

—there are a number of construction and material possibilities. The choice will depend upon how much one wants to spend—and what is spent should be commensurate with the value of the material to be covered. A $4 case may be adequate for many things, but even $30 for a well-constructed case, built to cover a folio volume, is cheap compared with restoring a binding and cleaning and mending pages.

It may seem, when I mention $30 for a protective case, that I am wandering away from what may be called practical preservation and restoration of library materials, but it has been our experience that many companies have paid over and over not only for laxity in preserving what they have, but in keeping something *to* preserve.

Many organizations have literally destroyed their own histories and realized it only when an anniversary was in sight. The catalog for 1885 was thrown away when the one for 1956 was published, the old poster was discarded when a new one was ready; not even samples of advertisements were kept; the published activities and photographs of men who built the business were talked about for a week or so and then forgotten; no records were kept of changes of business addresses or pictures of buildings. Rolled charters, standing on end in corners or lying on filing cases, were a nuisance to cleaners and an eyesore to everyone, and no one even noticed when they were swept out, or if anyone did, thought it was about time. Even minutes of meetings, because they cluttered up a safe and were dusty, were thrown out to make room for something else. Then it occurs to someone that the company will soon have an anniversary and something should be done about it. It turns out there is very little to do *with*. The few items that can be resurrected from the backs of old filing cabinets and from a closet in the storeroom are in frightful condition. An officer is assigned to take charge of the anniversary festivities, and a writer or advertising agency is hired to write a booklet and to find pictures. The money spent on the search alone would have paid for a great many protective cases.

Here is one example of such carelessness. A few years ago a Chicago firm was about to celebrate its hundredth anniversary. Material for an exhibit they planned was scarce. A canny book dealer, after reading something in a newspaper about the coming observance, wrote to the firm and told them he had three posters which the firm had issued 70 or 80 years earlier. An officer immediately went to see the dealer and was delighted with the posters. He handed them to the dealer for wrapping and reaching for his billfold, asked how much they were. "Three hundred dollars," replied the dealer. The officer flushed and sputtered and, as I remember, used the word "robbery."

The dealer quietly reminded him that he, the dealer, had bought the posters some 30 years earlier, that the money put into them had not earned interest during those years; that he, not the business firm, had paid storage on the pieces and kept them in good condition. Three hundred dollars was his price. The officer left in something of a huff but was back two weeks later with the money—the posters were not to be found elsewhere. Does $4 seem high for a protective cover, or on occasion, $30? Does it seem like too much trouble to clean a charter and store it carefully?

Mending

Now that the sermon is over, let's consider documents which are not in good condition or are going to be handled a great deal and need something in the way of restoration or protection. There is very little an amateur can do that is not harmful; or better said, there being no quick, easy way to make the smallest mend, an amateur, even when he knows what to do, usually will not take the trouble to do it.

Archie Motley, in charge of broadsides and posters at the Chicago Historical Society, demonstrates preservation techniques.

Cleaning a dusty piece with wallpaper cleaner.

Most sticky cloths and films are unacceptable—remember we are talking about permanent preservation. These tapes are altogether too easy to use—you pull a piece off a roll, press it on a tear and presto, a repair! But look at it five years later. The gumminess is bad but it can be removed; it is probable that the stain cannot.

I said at the beginning that I do not know one adhesive from another or anything about chemistry, but I do know that most sticky tapes leave stains that are almost impossible to remove. Adhesive coated plastic tape is probably the worst offender. If you had ever seen a fine colored print, worth several hundred dollars, with an orange-brown strip across the face of it where this tape had been, or the crisscross stains left on a manuscript letter that had been thoroughly "mended," you would know that this tape must not be used on anything of value. Use it on packages and to put labels on shoe boxes, but do not put it on company documents.

Plastic tape can be removed from paper with carbon tetrachloride, the popular cleaning fluid sold at all drug stores. Using cotton saturated with this chemical, pulling the film with one hand and working on the adhesive with the other, the film comes off, and the remaining adhesive can be washed off with the same chemical without harming the paper. The stain must be left to an expert. One can only hope for the best. A warning here — carbon tetrachloride is toxic and must be used in a well-ventilated room.

Permafilm, an adhesive film which has been on the market for several

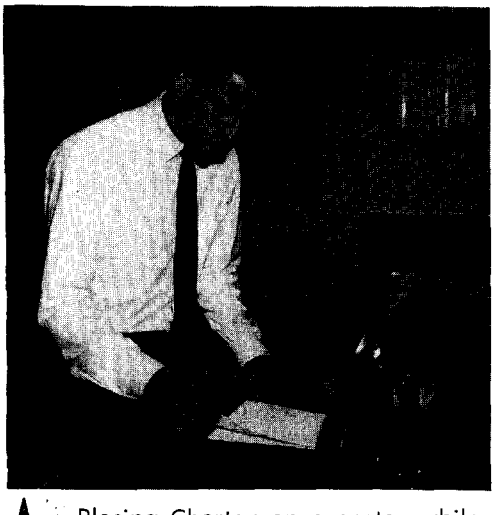
Soaking clippings preparatory to laying them on a white blotter.

years, has stood up well under accelerated wear and artificial aging and the adhesive apparently leaves no stain. The film is almost perfectly transparent. We have used it for eight or nine years to mend torn newspapers, periodicals and programs and, on the whole, have found it satisfactory. I say "on the whole," because if care is not used in applying the film, air gets under it, the adhesive dries and the film comes loose. A thumb nail, we have found, is the best rubbing implement.

We have covered the backs of programs and small broadsides with sheets of Permafilm and put together others which were in pieces. We first clean a document, soak it and press it, and then, holding up one end of the film

sheet, place it on slowly, rubbing with a rubber roller and working from the bottom center toward the edges. Then the piece goes into the press and is left there overnight. Sometimes our best efforts are not good enough, especially with larger pieces; after a few months air bubbles appear. Permafilm will not stick to oily papers and is not strong enough to use on heavy papers.

Document restorers do not use Permafilm. The adhesive, they say, is unstable and the film is liable to peel off after a few years, leaving the adhesive embedded in the pores of the paper. They use no adhesive but wheat flour paste, and because we respect what they say, we do not use the film on rare books and documents. We use it for general mending because it is the safest, easy-to-use material we know and because if we put it on something we wish we hadn't, an expert can re-



Placing Chartex on a poster while iron heats to a low temperature.

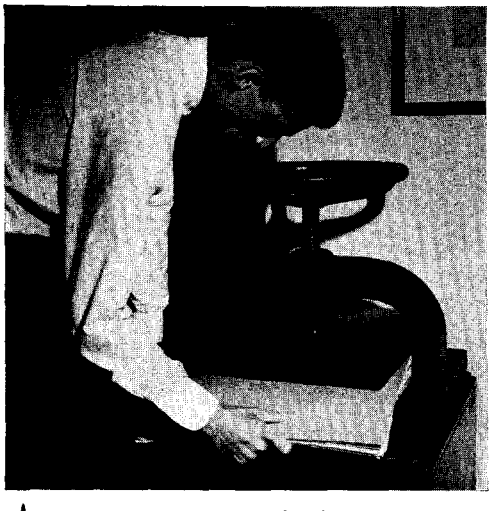
move it and no permanent harm will have been done. The film is available in strips about an inch wide and in rolls 24 inches wide. Our experience has been that the strips dry out; we buy the rolls and cut strips as we need them.

The best mend is made with onionskin paper or Japanese tissue—onionskin, 100 percent rag and a good mending tissue can be bought from at least one library supply house. To make the mend, apply paste only to the tear itself, press a piece of paper or tissue, about an inch wide, over the tear and allow the paste to dry. Then pull off the excess tissue, pulling toward the dried paste. Waxed paper will keep one page from sticking to another. It is between the worker and his conscience what kind of paste he uses.

Glue will not do. It hardens, crumbles, stains the paper to which it is applied, and is difficult to remove. When an adhesive is needed, use paste. The purists—the experts I keep mentioning—say that one must mix his own flour and water paste. It lumps, of course, but can be strained through a cloth. Better still, cook it in a double boiler. I am in favor of having experts do this, but I am not, and I believe others are not, going to mix lumps and strain them, not to mention cooking, every time I want a dab of paste. It is true that I do not know one paste from another but I am going to brazen it out and say that good library paste never hurt anything—with the exception of photographs.

Liquid plastic products are excellent for repairing loose backs on old books,

Photographs by Walter Krutz



Damp letters and Chartex-mounted posters go into the press.

atlases and periodicals and for other similar repairs. They are elastic and transparent, are not difficult to use and if a bit of it falls where it is not wanted, it can be wiped off with a damp cloth before it dries. It can also be used to make pads out of loose sheets of paper and to hold together several small pamphlets. I would not smear it on a rare piece. A feathered tear can be mended by putting a little on one edge of the tear, bringing the other edge over to it and letting it dry; the mend is sometimes stronger than the paper.

Mounting

Use paste on newspaper clippings, programs and invitations and, whether you are pasting onto loose sheets of paper or into scrapbooks, make an effort to obtain paper with high rag content, if not all rag. We think newsprint is poor, and it is, but the leaves of most scrapbooks are worse; the leaves disintegrate while clippings and programs pasted to them are still good. An attractive cover does not preserve the pieces inside.

I have already mentioned that most cardboard is poor; certainly a document should not be pasted to it, much less glued to it. Recently I went to a fine old home to look at some posters the owner wanted to give us. They were put out by a nationally-known Chicago firm, they were large, they were in color and the pictures were excellent. They would serve not only as the record of a business firm but could provide good illustrations for advertisers, newspapers, magazines and books. Some of the earlier ones, very desirable from our point of view, had been mounted on cardboard. The owner picked up one of these and the backing cracked. The poster broke too, of course, and he had one piece in his left hand and another in his right. The pieces are now in the hands of a restorer.

Another example: A few years ago our museum ordered on approval a pair of watercolor paintings. They were not large but they were handsome and the $300 price was not too high. When the paintings arrived it was discovered that they were mounted on cardboard —brittle cardboad which had flaked and broken pieces off the edges of the paintings. We wanted the paintings but we knew they could not be left as they were and that the cost of scraping and soaking off the old board and remounting on all-rag would be high. This was explained to the dealer and he reduced the price by $100. Some well-meaning amateur had gone to quite a bit of trouble to reduce the value of his paintings by one-third. Moral: To mount a company's documents on just any piece of cardboard is tantamount to stealing money out of the cash drawer.

In addition, it is not easy to do a good job of mounting, even if the best cardboard and the best homemade paste is used. If you want to try, experiment first with pieces you do not care about but remember that papers differ and that each has a mind of its own. A piece of cardboard, damp with paste, will not oblige by contracting at the same rate a document does, and both you and the document are liable to have wrinkles.

Muslin and linen make good mountings, especially for very large pieces. They are the only mountings that can be used, as a matter of fact, for maps and broadsides which are as large as 8 x 10 feet. Sometimes a sheet of all-rag paper is pasted on the document or map first to give a little stiffness, and the cloth is then pasted on that; sometimes the cloth is applied directly. Large pieces can be sectioned to fit drawers and mounted so that a fraction of an inch of muslin shows between each section; the fold then is on the cloth and not the document. This must be left to an experienced person, for a document has to be dampened before it is mounted and then properly dried.

Chartex, an adhesive cloth mounting and one of a few that can be recommended because the adhesive does not

draw moisture, can be applied fairly easily with an electric iron. When the piece to be mounted is clean and free of wrinkles, a sheet of Chartex is laid on the back and the adhesive melted with the iron. Care must be taken to get an even heat on all parts of the sheet. It is advisable to put the mounted piece into a press for a few hours, but a heavy book will do.

If you mount pieces fairly regularly or handle piles of curled photographs, it might be well to invest in a Fotoflat weight which the makers of Chartex have devised. It is a good idea to press anything that is pasted, too. We keep an old Chicago telephone directory for the express purpose of putting into it pasted newspaper clippings. The weight of the pages will keep the sheets flat as the paste dries.

Protective Coverings And Laminating Processes

If anyone has the notion that lacquer or varnish or a plastic spray will further preserve a document, listen to what a man in the Map Department of the Library of Congress told me a few years ago: "People have been hanged for less than shellacking maps." At the Chicago Historical Society we have seen the damaging and costly results of varnishing and shellacking. Varnish and shellac darken with age, obscuring what is underneath, and like poor cardboard, they crack, cracking the paper to which they have been applied. We have found that in most instances they cannot be entirely removed, and the job of replacing chipped pieces of paper—when they can be found—is expensive. Lacquer and plastic sprays have all been found wanting. They protect the surface of the paper but give very little strength and are inclined to increase the brittleness of the paper.

There is a method of restoration in which a transparent plastic film called lamination is used and it can be recommended. It may be described briefly as a process by which a sheet of cellulose acetate film, and usually a strengthening tissue, are applied to one or both sides of a document by means of heat and pressure; the film softens under heat and is pressed into the pores of the paper and tissue to form a homogeneous unit.

There are several types of laminating procedures. One, the earliest to be adopted, makes use of flat-bed presses with heated platens. A somewhat later development uses a cylindrical press and applies the necessary heat prior to running the laminate between the cylinders of the press.

The best-known form of this method is the "Barrow process," which has certain other distinctive features as well. Among these are a pre-treatment of the paper to neutralize actual or potential acidity. Each document is deacidified in two baths, then air dried. Following this, it is made into a sandwhich which includes not only a layer of cellulose acetate on each side of the document but also a sheet of pure cellulose fiber to give folding, tensile and tear-resisting strength. The process is not for the amateur; it requires precision-built equipment and trained workers. This system is used by a number of archives and libraries both in this country and abroad (including the Virginia State Library, Richmond; the Delaware State Archives, Dover; the British Museum, London; the Archives Générales, Paris; and the Library of Congress, Washington).

A group of Federal and other agencies using both the "Barrow process" and the older platen process are supporting an investigation by the National Bureau of Standards of the effectiveness of the several elements of the laminating process. The Library of Congress has issued a statement describing its position with respect to its present laminating procedure.

Certificates can be preserved by this method as can posters, programs, sheet music, newspapers, maps, letters—even letter press copies and tissue paper.

Documents printed on one side can have strong pieces of muslin laminated to the back, leaving the face untouched. We have had this done with hundreds of maps and broadsides so as to get maximum clarity in photostats and photographs and, though the film can scarcely be detected, to preserve original appearance. Books, periodicals, pamphlets and newspapers must be taken out of their bindings to be laminated, but a binding edge of all-rag paper is put on each sheet and the volume is then ready for the binder. Lamination is a very useful process; it is cheaper than silking and more lasting. It cannot be used on parchment or vellum.

Documents can also be preserved in plastic envelopes. This does not mean *any* transparent envelope; some of them exude chemicals that migrate into the paper placed inside and hasten deterioration. Several years ago a collector sadly reported that nine Mary Lincoln letters had become foul-smelling dust in his transparent envelopes.

Only a few weeks ago a midwestern university found, in a collection it had just acquired, that a letter in a transparent envelope was disintegrating—it was in 105 pieces. These pieces were removed from the envelope and a sheet of rag paper inserted; a piece of the same rag paper was put into an envelope known to be of good quality, and both envelopes were put into an oven and subjected to a heat test. It was found that the paper in the first envelope had become brittle and broke at the first attempt to fold it; the sheet in the other envelope was not affected. The university is now discarding all the transparent folders in this collection. Envelopes of good quality are available; they can be made to size, they can be punched for ring binders and hinges can be put on them for stitched bindings.

Photographs

Photographs are out of my province, but I do know that they can be safely mounted on good board or muslin by lamination or with dry mount tissue. Moisture in contact with a print accelerates fading. For this reason paste should not be used nor should some of the commercial photomounts whose adhesives collect moisture. Chartex, which I have already mentioned, is useful for photographs as well as printed papers. As for protecting against fading, restoring prints which have already faded or removing stains, I can only suggest a booklet called *Stains on Negatives and Prints*, published by the Eastman Kodak Company. It discusses mounting, rubber cement, paste, stains, envelopes for storing, and other matters of importance to people who take care of photographs.

Work Of Expert Restorers

There are times when none of the methods of preservation mentioned is adequate for the result desired. A valued charter has been folded four ways, it is dirty, a large piece is gone from one corner along with part of the border and some of the text, and there is a hole in the center where a corner was formed by the folds. Lamination cannot restore the corner nor do more than show muslin through the hole in the center; mounting on the best board restores nothing.

This is where the expert comes in; he he is not a myth. At least the one I know is not nor are the men in his shop —one of the best shops, incidentally, in the country. The charter is cleaned and soaked and pressed. The missing corner is replaced so skilfully with matched paper that it will take a hard look to detect the splice; the hole in the center is treated the same way. The type is copied and the missing text printed in. The border is continued around the corner, either by hand or by means of an engraved plate. Then the piece is mounted on linen or rag board. After it is returned, you believe that black magic has been practiced.

A rare pamphlet is found in a dusty box; the front cover is lacking. Fortu-

nately a collector in town has a copy and is willing to lend it to the expert while he works on yours. It is impossible to match the paper, so the back cover of the imperfect copy is removed and split; where there was one piece of pale green paper there are now two—how perfect can a match be? Each piece is lined for strength, the type on the good copy is reproduced, the cover is printed, the little backstrip is painstakingly repaired, front and back covers are attached to the cleaned pamphlet—and more wizardry has been accomplished.

A parchment certificate has been allowed to become wet and is as bumpy as the Ozarks; a college diploma on vellum has been rolled for so many years that it will not flatten out; both come back from the restorer looking like new. A manuscript letter is in pieces, sections along the edges gone, ends of words missing; it comes back whole with what might be called forgery on the replaced edges. Minute books have become moldy from dampness, the pages stained and the covers puffy; the mold is removed, the pages cleaned, and the covers restored. Wonders are done with old leather; books are bound in carefully chosen new leather; appropriate designs are created and beautifully executed.

The tale could go on. When a man is both artist and craftsman there is almost no end to what he can do, so before throwing away a mutilated document or a prized book, consult an expert.

I am sure it was obvious, even before I mentioned the sorcery of the fine restorer, that the preservation of paper materials is not a simple matter and that if permanency is desired, it should not be carelessly undertaken. Here is advice of one of my betters, a short paragraph headed Good Intentions are Not Enough:[1]

Nothing is more bitterly ironic than the well-intended but mistaken steps that are sometimes taken to protect valuable items — makeshift measures that, so far from providing the protection intended, may add to the damage already done by accident or long neglect. Such measures sometimes cause havoc so serious that it cannot be entirely undone by any means known to us today. It is therefore important that the amateur make no moves in this direction until he knows exactly what he is about.

CITATIONS

Names and Addresses of Products and Distributors In the Order Mentioned Above

AUTHOR'S NOTE: The products given here are currently recommended (formulae are sometimes changed) and have given satisfaction at the Chicago Historical Society; other similar products are not named only because we have not used them. The suppliers are those from whom we happen to buy. Men and companies listed are among the best in their field; others are not given only because we do not know their work.

All-Rag Board
Whitehead & Alliger Co.
11 Thomas St.
New York 7, N. Y.
Write for minimum quantity available, weights, sizes, and prices.

Protective Cases (made to order)
Ben Gabriel
2220 West Medill
Chicago 47, Illinois

A. V. Bailey
Route 9
Bloomington, Indiana

Permafilm
Denoyer-Geppert Co.
5235 North Belmont
Chicago 41, Illinois
Roll 24 inches wide by 20 yards long, $12.

Liquid Plastic
Delkote, Inc.
Wilmington 99, Delaware
Delkote Book-Saver is also at some department and office supplies stores.
8 ounce bottle, $1.95; 32 ounce bottle, $5.75.

Mounting on Muslin (large pieces)
Rand McNally & Co.
8255 No. Central Park
Skokie, Illinois

(*continued on next page*)

1. *All the King's Men.* Chicago: The Lakeside Press, R. R. Donnelley & Sons Company, 1954. Available upon request.

Chartex (adhesive mounting cloth)
Triangle Camera, Inc.
3445 North Broadway
Chicago 13, Illinois
12 sheets, 8 x 10, 90¢ (smallest size); 18 x 24, $3.90 (largest size); roll, 36 inches wide by 25 feet long, $8.75.

Fotoflat (steel sheet for mounting & flattening)
9 x 12 inches, $16.75; 12 x 15 inches, $19.75.

Both *Chartex* and *Fotoflat* made by
Seal, Inc.
Shelton, Connecticut

Lamination
W. J. Barrow
State Library Building
Richmond, Virginia

Markilo (plastic envelopes)
Markilo
902X South Wabash Ave.
Chicago 5, Illinois

E. T. Keeler Co.
423 West Wisconsin Ave.
Chicago 14, Illinois
Specify envelopes to be made of Lumarith Sheeting, No. L-822. Letter size about 75¢.

Stains on Negatives and Prints (booklet)
Eastman Kodak Co.
Rochester 4, N. Y.

Restoration and Fine Binding
Harold W. Tribolet
R. R. Donnelley & Sons
350 East 22 St.
Chicago 16, Illinois

Old Photographs In The Public Domain

JOSEPHINE COBB, Chief, Still Picture Section
National Archives, Washington, D.C.

A RICH SELECTION of illustrative material, free of copyright restrictions, exists among old photographs which have survived the years and are preserved in libraries, archives and museums or appear as illustrations in old books. There are thousands of these pictures, extending from the Civil War through the exploration and development of the far West, the tide of immigration, the American Indian wars, the coming of new inventions, disasters like the Chicago fire, the Johnstown flood, financial panics and labor difficulties, the World's Fair of 1893, the gold rush to the Klondike, and the Spanish-American War.

Any of these older photographs, copyrighted and published prior to January 1, 1900, are now in the public domain. Authors need have no qualms about copying them and librarians need not be concerned with copyright notices prior to this date which may appear on photographs in their collections. Since 56 years represents the maximum period for which copyright protection can extend under the laws of the United States, the copyrights on these pictures have now expired.

The duration of copyright for a published work is usually 28 years. At the end of that time the copyright can be renewed, and the new grant also extends for 28 years. Therefore, it is best to confine one's choice of photographic illustrations to pictures that are clearly in the public domain. Copyright on photographs is so very seldom renewed that pictures illustrating the San Francisco earthquake, World War I, and the achievement of the Spirit of St. Louis will, almost certainly, be found to be clear of copyright restrictions. Absolute assurance that a copyright has expired, however, depends upon the full term of 56 years.

EDITOR'S NOTE: An article treating photographs that are not in the public domain and upon which copyright restrictions are now in existence will follow in a spring issue.

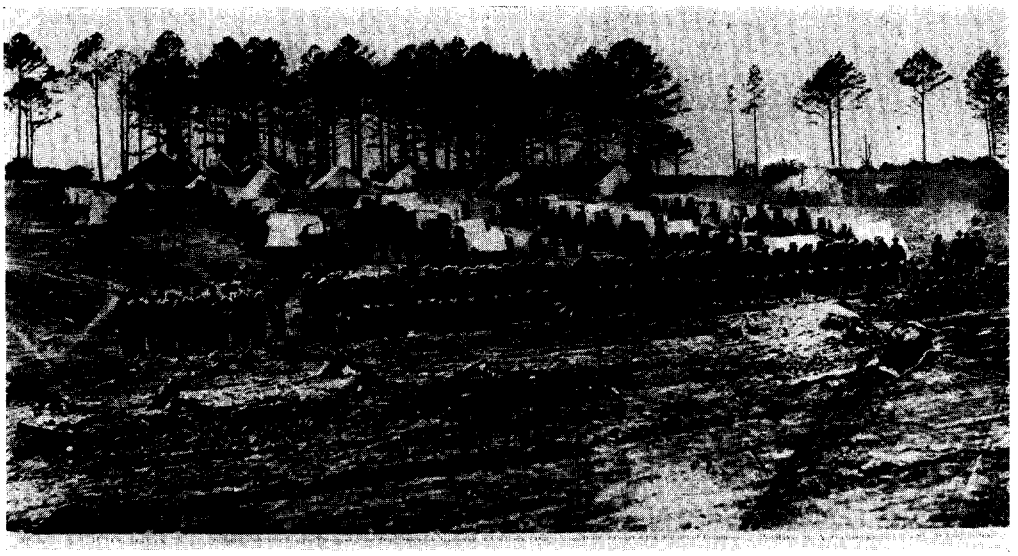
The laws respecting copyright in the United States rest upon a provision of the Federal Constitution. Section 8 of Article I declares that "The Congress shall have power . . . to promote the progress of science and the useful arts by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries . . ." Even before the adoption of the Constitution and as a direct result of the vigorous entreaties of Noah Webster, the lexicographer, individual states had already enacted legislation protecting the rights of authors through copyright.

The first Federal law of copyright was enacted in 1790. It provided for the authors of maps and charts as well as for the authors of books to enjoy copyright protection but it failed to extend that protection to artists. Remedy was sought in a supplemental Act which became law in 1802, "extending the benefits (of copyright) to the arts of designing, engraving, and etching historical and other prints." In 1824, artists urged the passage of still another bill which would provide for the authors of paintings and drawings but in this effort they failed to achieve their end. Again, in 1838, more specific provisions for "artists taking busts, castings, and modellings in plaster, porcelain, and wax" were proposed but this bill also failed to become law.

Thus far legislators had been concerned with benefits accruing to publication of pictures through engraving processes. They could have had no conception of the developments in visual communication that would come about with the invention of photography and the perfection of photo-mechanical processes of reproduction.

Development of Photographic Copyrights

The Frenchman, Louis Jacques Daguerre, made known to the public his photographic formulas in 1839. At that time, copyright legislation was embodied in an Act of 1831. This law provided but imperfectly for artists and their work and not at all for the craftsmen who, in the 1840's and 1850's, produced first the daguerreotype and then the photograph. Not until 1865 did legisla-



The National Archives

Morning guard mount in front of the picturesque camp of the Headquarters Army of the Potomac, a photograph from the famous Brady Collection of Civil War Photographs which may be reproduced without copyright restrictions. The original copyright notice appears on the bottom of the print: "Negative by T. H. O'Sullivan. Entered according to act of Congress in the year 1865, by A. Gardner in the Clerk's Office of the District of Columbia. Positive by A. Gardner, 511 7th St., Washington."

tion concerning copyright make specific provision for photographs. And until that time, copyright notices were deposited in the offices of the various District Courts of the United States rather than in the Office of the Librarian of Congress.

A typical registration of a photograph deposited in the District Court of the United States for the District of Columbia, in 1855, reads: "Be it remembered that on this twentieth day of February 1855, I, J. Vannerson, deposited in this Office a photographic print, the title of which is in the words following, to wit: Veterans of 1812 at the Tomb of Washington. The right whereof he claims as publisher and proprietor in conformity with the Act of Congress entitled 'An Act to amend the several Acts respecting Copyrights.' Test: Jno. A. Smith, Clerk."

Other deposits in the same wording as the above may be noted in copyrights for such items as the Design of the Washington Monument by Robert Mills in 1847; an engraving of John Quincy Adams, sketched by Arthur J. Stansbury " a few hours previous to the death of Mr. Adams . . . May 11, 1848;" a painting of Saddleback Lighthouse at Penobscot Bay by William Heine in 1858; and stereoscopic photographs of the Smithsonian Institution by Bryant and Smith in 1859.

The use of woodcut illustrations in the late 1850's in the pictorial magazines and the contributions of Mathew B. Brady to pictorial documentation with the coming of the Civil War in the 1860's resulted in a great increase in the number of copyright deposits for photographs. Among the earliest of the Civil War views are those copyrighted by Brady which show soldiers in Washington, D.C., at Camp Anderson and Camp Sprague in July 1861.

Copyright deposits for war views made by other photographers not so well known as M. B. Brady and Alexander Gardner include many by Robert Addis and by Barnard and Gibson. Chase and Hatch copyrighted their photographs of the Lincoln funeral car, and Seth Kinman, the California hunter and trapper, copyrighted his photographs of the grizzly bear chair which he presented to President Andrew Johnson in September 1865.

Most of the Civil War photographs have been published at least once and, if they are good, they have probably been published several times. Many of those made by Brady were used for woodcut illustrations during the war years. They were again published in Lossing's *Civil War in America* in 1868. The Century publications called *Battles and Leaders, 1884-89* and the *Photographic History of the Civil War,* published in 1911 by the Review of Reviews, endeavored to publish all of the existent photographs of scenes of the conflict. Right down to the present day, Civil War photographs are a rich source for illustrations.

Just before the close of the war, March 3, 1865, Congress passed a supplemental Act, "extending copyright protection to photographs and photographic negatives" and providing for a notice of copyright to appear on all copies of the items to be sold. Almost as if he had been waiting for such legal support, the photographer Brady brought suit, in June 1865, against a fellow photographer. In an action which may be the first instance of a suit for violation of copyright on a photograph, Mr. Brady claimed that his photograph of President Johnson had been copied by P. J. Bellew and that copies had been sold by Bellew to the detriment of Brady's business. Since Mr. Brady had deposited notice of a copyright covering this particular photograph on May 7, 1865, the Court granted him an injunction restraining his fellow photographer from further piracy.

Another like suit concerned a photography of General Ulysses S. Grant made by the photographer Frederick Gutekunst of Philadelphia. Copyright for the photograph of Grant had been

duly entered in the District Court of the United States for the Eastern District of Pennsylvania, but a chromolithograph of the picture was published by Weise and Company without regard for the copyright. In the suit brought by Gutekunst, the Court decided against the photographer on the grounds that the copy of the photograph which the lithographer had purchased was not marked in accordance with the requirements of the copyright law. The photograher had contended that his copyright notice, which appeared on mounted albumen prints, was sufficient to protect his interests even though the notice did not appear on prints sold separately from the mounts.

Registering Photographs For Copyright

After 1865 the law required that copies of photographs registered for copyright must be forwarded to the Office of the Librarian of Congress. The object of this provision of the law was not primarily to protect copyright owners but to ensure the increase of the collections in the Library. Photographs that were thus received in the Library were not maintained as an official record of copyright deposits but were incorporated in the various subject classifications.

In 1897 the Copyright Office was established under a Register of Copyrights "who, under the direction of the Librarian of Congress, should perform all duties relating to copyrights." The position of Register was greatly strengthened by the Copyright Act of 1909 under which copyright matters are regulated today. Among the new provisions of this law, photographs were specifically designated as a separate class of copyrightable work.

Subsequently, copyright regulations have emanated from this Office of the Register, covering any and all material which may be copyrighted. Many of the regulations regarding photographs and illustrations published in books are immensely complicated, and picture librarians are seriously intent upon complying with these regulations. It is, therefore, reassuring to know that photographs published prior to January 1, 1900 are now in the public domain and may be copied by anyone without fear of copyright violation.

Preservation Of Photographs On MICROFILM: An Experiment

AGNES HENEBRY, Librarian
Decatur Herald and Review, Decatur, Illinois

AT A MEETING of the Newspaper Division in Cincinnati in 1954, Stevens Rice of University Microfilms, Inc., and I discussed the uses of microfilm. I asked him if it would be practical to microfilm a collection of old photographs of Decatur, Illinois. He felt sure that the collection could be microfilmed as well and at less cost than a staff photographer could copy each individual photograph.

The photos were of early Decatur scenes and early prominent residents and they filled about five letter-size drawers. They were taken during the 1890's up to about 1920 and some of them were of historical value. Many were brown, some torn, and many so fragile that they could hardly be handled. It was increasingly important to copy or preserve them in some way for many of them would soon not be usable.

Paper presented before the Newspaper Division at the SLA Annual Convention, June 6, 1956, at Pittsburgh, Pennsylvania.

University Microfilms microfilmed sample photos from the Decatur collection. They were run through the regular production department without any extra special treatment, and we found that some of the copy prints were actually better than the originals.

The *Decatur Herald and Review* decided to ask University Microfilms to undertake microfilming about 2,000 of the photos that we definitely thought should be preserved. Frankly, this was an experiment. Our object was:

1. To preserve photographs, many of which were of local historical value.

2. To save space by filing small negatives instead of full-size prints of things that have news value but are used on rare occasions, such as anniversaries.

3. To keep historical material in an active file, available for use with current material, instead of filing it away in a separate historical file, which might be forgotten unless someone remembered there was something in it.

University Microfilms decided it could microfilm the photos either on 35mm or 70mm microfilm and make contact prints. The film to be used was of the reel type, but individual exposures could be cut apart. It would cost about seven cents a photo for 70mm film and four cents for a contact print and a 3 x 4 cellulose negative cover. This would make a total cost of 11 cents for each photograph, which was cheaper than a staff photographer could do the work.

Other costs would include our staff time and labor for the identification and preparation of the photos, typing classifications on covers or envelopes, alphabetizing and filing, plus postage charges.

Filing Negatives And Contact Prints

University Microfilms could also have provided other transparent covers of various sizes for the film for about two to five cents each. Some of the covers have a strip across the top on which the name or subject heading may be written or typed. Some are stiff enough so that they stand up in the regular file by themselves. A negative and contact print can be inserted in a transparent cover, an identification written or typed on the holder, and the cover filed within the regular negative file — providing the proper size cover is used.

An alternative method could be to put negatives and contact prints in light weight transparent covers, which protect them and keep them together, and file them in regular negative envelopes with the names or subject classification on the envelopes.

(Just a word of caution if regular negative envelopes are not used for the negative file. It might be well to check with Eastman Kodak to be sure that the envelopes are suitable for storing negatives and prints. The glue used in some envelopes has a chemical reaction on the humidity in the negatives, and thus the negatives or prints can be ruined.)

We chose 70mm film. Because our white filing envelopes are an odd size, we used lighter weight transparent covers and filed the negatives in our regular negative envelopes. This keeps negatives in the active file, available for use when needed, instead of in a separate file which might be forgotten.

Preparation Of Photographs

Preparing the photos for microfilming proved to be an exacting task to which one girl was assigned.

First of all, we tried to identify all of the photos as few of them were sufficiently identified. Some, which had been re-used in recent years, had dates and cutlines on them. Photographs of individuals for the most part had family names and initials and many had full dates or years written in pencil. Subject photos were not so well identified. Some had nothing written on them; others had simply such identification as "water works," without a date.

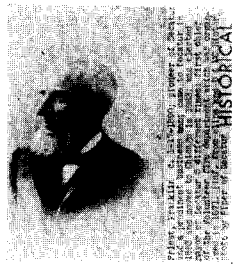
Our library staff identified all photos possible through reference to more recent photos in the active file, clipping

files and history books, and with the help of anyone who could identify the photos. This task was considerable fun because the news staff and also older staff members in other departments took an interest in helping obtain accurate and complete identifications.

We tried to show in identification captions why a photo was valuable to save. A photo was marked "historical" if it were, or "save" if it were important enough to keep, so that in the future these negatives would not be thrown away.

On individuals' photos we tried to build up short biographies including the birth and death dates if known, profession or business, pertinent family connections, information printed in the paper at the time the photo was used, or other pertinent data. On subject photos we tried to include a brief history of the building or event or scene, in addition to the information printed in the newspaper at the time the photo was used. We tried to obtain the dates photos were published and the names of photographers and we felt it important to note the source of our information.

Since there was so little information on the photos themselves, it was necessary to type our data on slips of paper and attach them to the photos. A large sized typewriter was used so that the type would show clearly in the film.



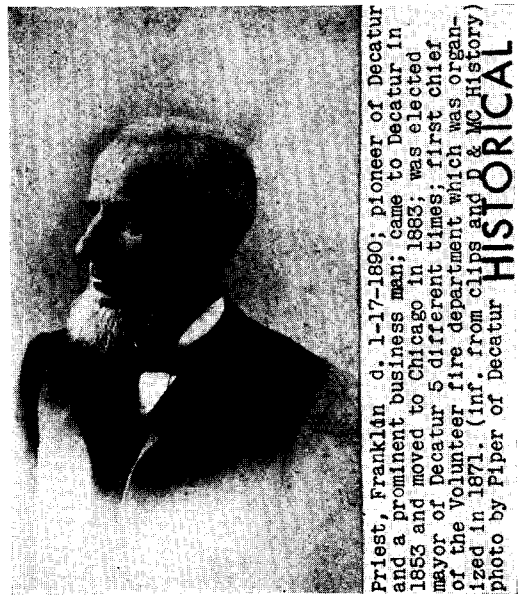
Above is an exact reproduction of a contact print made from a microfilm negative. The original portrait photograph, taken in the early 1880's, measured 3⅜ x 5⅝ inches and is now yellow and faded. To the right is an enlarged print made from the same 70mm microfilm negative. Some of the clarity and detail of the original are lost but the image is well preserved. Note the permanent identification caption attached to the face of both prints.

Slips of paper were attached with Scotch tape to the back of the photos in a position at the edge so that the typing would show below or at the side of the face of the photo and could be filmed at the same time.

If we want to save any of the photos, the cutlines can be easily detached and pasted on the backs of the pictures. Both sides of a photo could be filmed if the information were already on the back of the photos. We found it desirable to make identifications detailed enough for history but brief enough to be filmed without taking so much space that the photo image would be too small to reproduce well.

Many photos had a great deal of unnecessary background and some were mounted with wide borders. In order to make best use of the area on the film, we cropped photos as they appeared in the newspaper and trimmed them, except for those considered of sufficient historical value to warrant leaving the original prints intact.

To save time at the microfilming laboratory, the photos were sorted into three size groups: less than 5 x 7 inches overall, including the typed information; 5 x 7 inches to 8 x 10 inches; and



8 x 10 inches and larger. This means that the camera focus could be set three different times and the operator could blow up the image to fill the film to best advantage. The photos were run through the regular production department of University Microfilms without being given any special treatment.

Technical Considerations

I am not a microfilming expert but I understand that the success of microfilming photos depends upon the control of the type of film, the type of developer, and the type of paper used for reprints, just as in any photographic process. Some quality is sacrificed for quantity copying. Although the camera setting and film used allows for some variation in size and quality of individual photos, some detail is lost in any copy work. The microfilming process is not recommended for reproduction when 100 percent detail is necessary.

When newspapers are microfilmed, a high contrasting film is used to bring out the black and white of the paper. Cuts are often unsatisfactory because the contrasting black and white predominates and tones in pictures are lost. For this reason, a Type X film was used to microfilm the old photos.

Type X film has a long grade scale which shows the tonal qualities in the photographs. The developer used was a soft developer which has an extended grade scale. The reduction ratio used was 4 to 2, which is the largest reduction ratio.

It is very important that the type of paper used to print these photographs be considered for each individual picture, just as a staff photographer considers the proper paper to use in printing any one of his own photos to bring out details wanted. Therefore, no special instructions to the photographers should be necessary when one of these 70mm negatives is sent to the darkroom for printing. Very probably the photographer will find that a medium fast and a medium contrasting paper, probably a No. 2, will be satisfactory.

In summary may I say that the purpose of our project was to preserve historical photos, to save filing space by filing small negatives instead of prints which would be used only on rare occasions, and to maintain this material in an active file. The project is still in the experimental stage because we have not actually used the material in microfilm form. Our photographers tell us that it will be an easy matter to make a print when needed.

University Microfilms undertook this project, but other microfilming companies probably can do the same thing. *Look* Magazine had some work done along this line a few years ago although I am not familiar with what was accomplished. The Still Picture Section of National Archives has microfilmed photos and police photograph files have also been microfilmed.

Newspapers could make many uses of microfilmed photos, such as for special collections and perhaps even some groups of pictures which should be preserved but would be wanted infrequently. It might be possible to have more than one negative for a special collection so that negatives could be distributed to other libraries desiring photos.

Originals of the most frequently used and more important photos are being saved. Some of the photos to be discarded will be given to churches, schools and interested individuals as a matter of good public relations.

Index to "Panorama"

An index to *Panorama,* a periodical published by Harry Shaw Newman of the Old Print Shop between November 1945 and April 1950, is available. *Panorama* featured illustrations, articles and biographical notes on American painters and painting. The 26 page index is modeled on *Art Index*. Send orders and checks for $2 to Julia Sabine, Art and Music Department, Newark Public Library, Newark 1, New Jersey.

Photographic Library Procedures

CAMILLA P. LUECKE, Chief, Photographic Library
Press Service, U. S. Information Agency, Washington, D.C.

THE PRIMARY responsibilities of the photographic library staff are to assist those using the library, to arrange negatives and photographs systematically, and to prepare the indexes needed to locate photographic material.

Care and Handling of Prints and Negatives

If persons untrained in photographic procedure are to work with pictures, it is important to impress upon them the following elementary principles and simple precautions:

The negative is the heart of any photo operation. It is almost always irreplaceable, for the situation pictured rarely occurs twice.

The emulsion on the face of a negative is a sensitive gelatin, easily damaged by finger prints, heat, moisture, scratches, pressure, or chemicals. These injuries will show up as spots, streaks or stains on the finished print.

Filing

Keep each negative in a separate envelope or jacket. Keep negatives in a dry, dustless file. In humid climates this is especially important. The file should be correctly sized to hold negatives, for in a large file they may slip out of sequence.

Preferably, keep negatives in jackets especially prepared for such use. Ordinary envelopes are not as safe because acidity in the paper or glue may in time stain a negative. The seam of a special negative jacket is at the side rather than the center so that the gum seal cannot touch the image on the film.

Care is also taken in manufacture that no glue occurs on the inside and that the envelope is dust-free.

When attaching a caption to a print, be extremely careful that the adhesive substance is completely covered by the caption paper. Any glue left exposed may smear onto another print so that the second print is glued to the first. There is not only the danger that the surface of the second print may be torn when the two are later separated, but that the glue may stain the second print. Adhesive substances should be applied sparingly to the back of prints. An excessive amount of rubber cement on the back of a print will in time cause a yellow stain to appear on its front.

Handling

Pick up and hold negatives by the extreme edge. If this is a problem in a hot climate, wear clean, white, cotton gloves. Also, finger marks on photographic prints will show up in reproduction. Don't try to handle several negatives at one time. Don't place negatives close to a radiator or let them touch a light bulb or anything else that might melt the emulsion.

Lay a negative down only on a clean, smooth surface. Lay it with the emulsion side (the dull side) facing up. Don't clip paper clips directly on a negative or print. Place a piece of folded paper over the edge of negatives or prints for protection from clips. Don't let water, ink, coffee, or other liquid fall on a negative or print.

Don't write on the blank edge of a negative with ink, because even dry

An extract of a manual prepared by the author for the use of the International Press Service Photographic Library staff. The complete manual is not available to the public.

ink can smear. While grease pencil is the right medium for marking prints, it is very bad for negatives. Don't let the glossy surface of a print become cracked or wet.

Cropping

Cropping a negative indicates what portion of the negative is to be printed. Proceed as follows:

1. Place the negative in a transparent (glassine) envelope, unmarked by previous cropping indications.
2. Indicate its position in the envelope (as a precaution in case it should slip around or fall out). On the front of the envelope, mark the outline of the negative or at least indicate the position of each corner. On cut film there is a notch near one corner of the negative; be sure to indicate where this notch occurs. This prevents a negative's being replaced in the envelope upside down.
3. Taking care to put no pressure on the emulsion inside, mark on the envelope what portion of the negative you wish printed.

To crop a print, mark in the margin of the photograph with grease pencil. If it is to be blown up or reduced in the copy, indicate the desired measurement between cropping marks. Indication in one dimension is sufficient, since either length or width will determine the scale of the other dimension. Be sure no earlier crop marks remain on the photograph to confuse the instructions.

Never cut a print or negative to indicate cropping. Never paste anything over the unwanted position of a print or negative. Remember that someone else may wish to use the full image.

Mailing

Back prints up with a strong cardboard as large or larger than the largest item to be protected. Do not use paper clips in mailing, even with the protection of folded paper, since the pressures of other packages en route can leave the impression of the clips on a print's surface even through the paper.

Negatives must be especially well protected. The best carrier is a small box, such as a used film box. One may use a cardboard wrapping, however, if it covers ends and sides of the package as well as back and front. When mailing, keep negatives in separate jackets. Since negatives are generally irreplaceable, they should be mailed by the safest way consistent with speed.

Photographic Files

The IPS master print file contains mounted photographs covering a wide variety of subjects. This file includes all photographs distributed generally by IPS, all photographs marked for file by the editors, and other photographs of good quality that are likely to have future use.

The file is divided into two sections. The subject file covers many topics and the personality file contains portraits and informal shots of such personalities as Douglas Fairbanks, Jr., Joe Louis, Abraham Lincoln and Dwight Eisenhower. Each section is filed alphabetically; in those cases where several photographs have the same subject heading, photographs are filed numerically.

The master negative file contains all negatives used or acquired by the photographic library. The negatives are filed in numerical order. Each one is kept in a separate negative preserver (envelope jacket), on which the accession number and caption are printed. These preservers protect the negatives from scratches.

The duplication-carbon caption file contains "dittos" of master print captions filed numerically by accession number. Use of these carbons eliminates retyping with additional print orders.

The extra print file contains duplicates of master prints, filed numerically by accession number, in envelopes.

Accessioning

The first step of photographic library procedure is the entering of the photograph into the accession ledger or "log book." It is at this point that a photograph is assigned a permanent number.

The number is a composite of a two-digit prefix, indicating the calendar year, and a number signifying the position of the photograph in the numerical sequence of the accession ledger. For example, 52-1175 indicates that the photograph came to the file in 1952 and that it was the 1,175th photograph to be placed in the file that year.

The accession ledger also gives: the date the photograph was entered; a one-line description of the photograph; the date the photograph was made; geographical location of the scene or object pictured; name of the photographer or the source from which the photograph was obtained; a column headed "File," which is checked when the caption has been written and the photograph placed in the library file; the word "Original" or "Copy" to describe the negative.

Caption Writing

A caption is written for each photograph selected for the master file. It has been found most advantageous to write captions on duplicating carbon. This practice has eliminated the recopying of the caption, as it can be run off by a duplicating machine onto the master mount, negative jacket, extra prints, and cross-reference cards; then the carbon can be filed for future use. Duplicating eliminates errors in transcribing and speeds up the work of placing photographs in the file.

The essential function of the caption is to enable one to file and find a print. The purpose is not to convey "researched" information compiled by the caption writers. A good caption gives all the essential leads required by a user who wishes to find out more about the subject himself.

Eight main questions should be answered in a caption:

1. Who?—names and titles of persons; if important, add subject's home town and state, or home town and country if the subject comes from a country other than the United States.
2. What?—the occasion.
3. Why?—the circumstances, reasons for event, why noteworthy.
4. When? — date picture was taken. (Distinguish between this and received or released date. If exact date is not known, say "about" or "between.")
5. Where? — town and state where photograph was made.
6. How?—method, for example, manufacturing processes.
7. Source—name of photographer or source from which the photograph was procured.
8. Negative information—is it an original or copy negative?

The caption writer's goal is the setting down of appropriate information, not a literary style. Use facts, not assumptions, in caption writing. Avoid adjectives, especially of opinion, such as "beautiful." Identify persons left to right and state "left to right." Describe the view—airview, elevated, overhead, over-all, general, close-up, front, side, rear, exterior or interior. This is for the information of those who will be reading from index cards.

Classification

Classifying has been described as "the putting together of like things." It involves determining the main element of a photograph according to what it actually shows, so that like photographs may be placed together in the file. It is not enough to file a group of photographs together simply because they were taken at approximately the same time and place; each photograph must be considered singly.

The classifier should read the caption and study the photograph carefully to determine why the photograph was made, what it is supposed to show. Such an examination may reveal that it treats of one subject, several phases of the same subject or two or more subjects. No matter how many elements

a photograph may contain, it can be classified in only one place. But, although the master print can stand in only one place in the file, it may be entered in the subject index under as many headings as necessary.

The selection of a subject heading should represent the determination of the main element of the photograph and the selection of the most apt and specific word or phrase that can be applied to the photograph. The simplest form of subject heading is, obviously, a single noun. Frequently, however, a subject can best be expressed by an adjectival phrase, as **FOREIGN AID.** When it seems desirable to bring the noun in an adjectival heading into prominence, the inverted heading may be used, as **FACTORIES — STEEL.** Compound headings are also very useful for covering two subjects usually treated together, as **UNIVERSITIES AND COLLEGES.**

Once the subject heading under which a photograph will stand in the master print file has been chosen, be guided in selecting cross-references by the secondary subject matter featured in the photograph. Consider, for example: geographical location, if given (state and city or country and city); nationality groups; events (Thanksgiving, inauguration, parades); problems (child care, foreign aid); materials (rubber, steel, wheat); operations (cultivation, plowing, eating); objects (vacuum cleaners, lift truck, Geiger counter); names of organizations or institutions; all persons who can be identified.

If a photograph has been given a subject heading with a subdivision, there should be a cross-reference to the subdivision. For instance, in the case of **LIVESTOCK—SHEEP,** be sure that a cross-reference is given to **SHEEP.** If a second word or subdivision is given in a subject heading, it is usually important enough to be worth a cross-reference.

An object or theme portrayed clearly in a photograph should be noted in a cross-reference, even though it may not be mentioned in the caption or bear any relation to the main element.

Subject, Personality And Numerical Card Indexes

A card index is maintained to help users find the pictures they need. This also is divided into two sections. Drawers labeled in white are the cross-reference cards for the subject file; those labeled in peach are cross-references for the personality file.

The subject index is known as a "dictionary catalog" because of its arrangement. All entries are arranged in a single alphabetical order. For example, a photograph showing a ship loading boxes of **CARE** packages would have one card in the index headed **SHIPS-LOADING & UNLOADING.** This card is called the main entry as it is the heading under which the picture is actually placed in the photographic file. The main entry does not have a "see" reference. Another card would be headed **MARYLAND, BALTIMORE,** indicating the geographical location of the ship; another would be headed **CARE,** and another **FOREIGN AID.** The last three cards would have a "see" reference to **SHIPS — LOADING & UNLOADING,** indicating the location of the photograph.

The personality card index enables one to find all pictures of an individual. If the photograph is a bust portrait, it would have no "see" reference but would be filed under the subject's name in the personality file. If a photograph showed Joe DiMaggio playing baseball, the picture would be filed under **SPORTS—BASEBALL,** and a card in the index headed and filed under **(D)iMAGGIO, JOE** would direct the searcher to **SPORTS—BASEBALL.**

The purpose of the cross-reference cards is to enable clients to collect photographs that present various aspects of any given subject. For example, a photograph of a modern kitchen might show an electric mixer in such a

way as to make the picture quite valuable in telling a story of the importance of electricity. In this case, a card headed ELECTRIC MIXER would have a "see" reference to KITCHENS, another with a like heading might have a "see" reference to RESTAURANTS or STORES—ELECTRICAL APPLIANCES. The card index must be used to correlate subjects widely scattered in the classification scheme.

A numerical card index immediately follows the subject card index, and the drawers are labeled in blue. These blue cards, filed numerically, give the subject headings under which photographs are filed. This file enables the researcher who knows only the accession number of a picture to find out under what subject that photograph is filed. As the back of the blue card also lists all cross-references to the photographs, it enables one to "weed" the file and the index when necessary.

Preparation Of Index Cards

The first step taken by the classifier in the preparation of a photograph for file is the making of the blue numerical index card. The main entry or chosen subject heading, which indicates where the picture will be located in the master file, is typed on the face of the blue card, which is to be filed in *numerical* and not subject order. The cross-references are typed on the back of the blue card. A white cross-reference card is made for each subject listed on the back of the blue card. These entries are made on a blank blue index card, as dittos will be run on to the card later.

If a photograph is part of a series, a series card is prepared. These cards do not have captions duplicated on them. The location of all pictures in the set may be ascertained from a series card. This card is filed alphabetically by the name of the series. A general cross-reference card is made for each cross-reference common to all of the photograps in a series. The general references themselves appear on the back of a series card. This eliminates numerous cards having the same reference and standing together in the file and reduces the number of cards in the catalog.

Duplication

When a photograph has been classified, assemble all the material on which the caption for that picture must be duplicated: the photograph and the mounting board for the master print; any extra prints from that photograph; the negative jacket; the classifier's blue card; as many white cards as are indicated on the back of the classifier's card. Clip these together temporarily with the duplicating-carbon caption and deliver them to the duplicating department. Here the caption is run off on the above material by the duplicating machine.

The original print, if one exists, or the best copy print is "tacked" and dry-mounted on the master mount with Eastman Kodak Dry Mounting Tissue.

"Tacking" is the process of attaching dry mounting tissue to the back of a print in one or two spots with a tacking iron, in order that the tissue may be trimmed to the size of the photograph to be mounted. The tissue is then tacked to the mounting board to prevent the photograph from slipping out of position in the dry mounting press. The mount is a railroad board which is light and thin, but durable. Cardboards that are too heavy soon take up a great deal of space in the file.

Collation Of Items For File

When the materials are returned from the duplication department, the following steps are taken to prepare the various items for file:

1. Duplicate prints are placed in an envelope and the accession number written on the upper right corner of the envelope. Duplicate prints are filed in numerical order and may be used as work prints. The use of work prints accomplishes two things: first, it keeps

the master mount available in the file; second, it reduces handling of the master mounts.

2. The accession number is placed on the upper right corner of the negative jacket. The negative is put in its jacket and filed in numerical order. The negative jackets are 4-inch x 5-inch kraft envlopes, open on the end. They may be obtained in other sizes.

3. A library clerk types the subject headings and the "see" references on white cards.

4. The white cards are arranged in alphabetical order and placed in the subject card index. Cards having the same subject heading are arranged in numerical order.

5. The blue card, now bearing the caption, is placed in file in numerical order. These blue cards constitute a numerical card index of the library photographs.

6. The accession number is placed on the upper right corner of the master mount, above the photograph mounted thereon. The subject heading is typed on gummed paper in capital letters and placed on the upper left corner.

7. A distribution report form is printed on the back of each mount to show where and when the photograph has been distributed.

8. Mounted prints and duplicating carbons are placed in the appropriate files.

The master prints, master negatives and duplicating carbon captions may not be removed from the library until they are charged to the borrower and charge cards have replaced them in the files. Charge cards, of course, must be removed when items are refiled and may be re-used until all lines are filled. Duplicate prints need not be charged.

Suggestions for Libraries Having Small Collections

If photographs cannot be mounted, it is suggested that they be placed in folders. The type of folder recommended is called a "File Pocket." It is closed at both ends and helps protect the photographs. Place no more than ten photographic subjects to a folder as this enables one to refile easily. Be sure the accession number appears in the upper right corner on the white edge of the photograph. The numbers included in the folder should be placed on the folder guide—for example, 50-125 through 135.

The negatives and duplicate prints should not be filed with the master prints. Both should be maintained in separate files in numerical order. This system of filing protects the negatives and enables one to locate them easily, as it is quite difficult to keep a negative attached to a master print. If duplicate prints are filed with unmounted master prints, it is very easy to withdraw the original print and leave a copy print to be duplicated or to even withdraw the last print of a subject.

Many techniques and procedures outlined in the preceding pages are not necessary or indeed feasible for a small collection of photographs. However, even a small collection should be put into some arrangement, as one can never be sure that it will remain small. At first, it might be arranged in numerical order.

Index the photographs beginning with the lowest number filed, and do not add a new picture to the file until it has been indexed. Set up a 3 x 5 inch card index, and select subject headings as required for the photographs being indexed. Type the subject heading in capital letters at the top of a card. Place an accession number of the picture on the card and file the card in alphabetical order. Make several different cards if necessary. For example, photographs showing a visiting nurse working in a clinic might require three cards: one headed **NURSES**, one headed **CLINICS**, and one locating the clinic geographically.

This system necessitates constant checking of the cards for each item or element one might wish to index. For

example, when a second photograph of a clinic is to be indexed, the accession number of that picture should be added to the original index card headed CLINICS. The system has certain limitations. If one wishes photographs of the hospitals in Camden, New Jersey, he must check all pictures numbered on the card headed NEW JERSEY, CAMDEN. Many of the photographs would show places and things other than hospitals. Of course, it would be possible to head a card, NEW JERSEY, CAMDEN—HOSPITALS. However, if the selected subject headings become very specific, the system will become unmanageable, as the card index will be too large to check for each item to be indexed. Another limitation of the numerical arrangement of the photographs is that an index card headed NURSES would probably not have any two numbers in numerical sequence, necessitating "pulling" each photograph from a different place in the file. This limitation does not become a problem as long as collections remain small, but it should be borne in mind that photographic files do grow unless they are weeded frequently.

Microcopy, Nearprint And Other Reproduction Processes

VERNON D. TATE, Executive Secretary
National Microfilm Association, Annapolis, Maryland

DOCUMENTARY reproduction begins with an original to be reproduced. From the original may be produced a single, hundreds or thousands of identical facsimiles or any number of textual reproductions termed copies. By tacit agreement the use of mechanical equipment is implied. Between these two poles lies a vast and absorbingly interesting field which concerns itself with ways and means of multiplying recorded knowledge to meet current needs.

Accomplishments And Prospects

At the present time the processes of documentary reproduction constitute a broad spectrum of techniques which offer an almost bewildering variety of methods, together with exceedingly wide latitude in adjusting a single system or a combination of several systems to meet a particular set of requirements. Sound and well tested methods producing predictable results exist at all levels. Experience has been well reported, for there are few if any trade secrets in these areas, but documentary reproduction is being used in so many ways for so many different purposes that it is almost impossible to maintain anything like adequate coverage. Moreover, advanced experimentation, new processes, equipment and applications are encountered daily. This is a most active field, not only in the sense of production but also in progress.

Developments in the future will be conditioned by the ability to draw upon accumulated experience, new research and a sound basis of theory. Insofar as the physical aspects of the many techniques of documentary reproduction are concerned, there seems to be little doubt that their application can be successfully continued and expanded. Theoretical aspects of appli-

Extracted from a paper presented at the post-convention Institute on Special Librarianship and Documentation, June 8, 1956, Pittsburgh, Pennsylvania.

cations, especially as they concern documentation, information handling and special library work, are more complicated, less well understood and consequently less promising. Much is known about the *how* and too little about the *why*. Too great preoccupation with physical equipment, "hardware" it is often termed, has obscured the need for hard thinking, cooperative action and even the urgent need to accumulate the basic data prerequisite to an intelligent analysis.

Processes tend to divide themselves into more or less natural categories according to the number of copies that each will reproduce efficiently. Curves of relative efficiency exist or can be drawn for each process but these must always be weighted in terms of various local factors. Contrary to widespread opinion, it does not greatly matter whether the original is new or old. The basic problems are the same whether reproductions of a 15th century incunabulus or a 1956 research report are being considered.

Microtechniques

By definition, the microtechniques are those whose products cannot be read by the unaided eye. In general microphotographic processes are of two types: those whose final product consists of images on a transparent base, the microtransparencies (conventional roll microfilm and strips or sheet microfilm often called microfiche), and those whose product consists of images on an opaque base, the micropaques (Microcards and microprint). All use photographic sensitive material at some stage.

A feature that distinguishes microtechniques of documentary reproduction is the reading machine which provides the method whereby textual copies can be read in any quantity without the expense of making extra copies on paper. Projects or applications that neglect this concept forego some of the major benefits of the several processes. Another factor is that the commercial work accomplished in business, industry and the Government is responsible for much of the progress that has been achieved. There is certainly need for private enterprise in the application of the microtechniques, unless subsidy and the control that accompanies it are to become the rule. There is equal need for united cooperative activity by users, if librarians and documentalists are really users. The real users are those who benefit from the collections and services that have been built up. Failure to recognize this simple fact has been the source of a good deal of difficulty.

It may be pertinent to venture a few personal summary opinions about microtechniques generally: 1) A completely adequate basis now exists for the effective use of any variation of these processes. Equipment, materials, supplies and the all important "know how" to deal with virtually any problem are available; 2) Microreproduction has become a multi-million dollar industry manned by professionals who strive to keep standards and ethics on a par with those of any industry; 3) Whatever is needed or desired by a market willing to pay a fair price for a fair value will be supplied; 4) Until true cooperative action is taken, informational documentation and like activities will be forced to continue to hitch hike along the road of business and industrial development; 5) The greatest need in these fields is education.

One series of developments which can be either photographic or some form of printing serves as a good transition between microtechniques and nearprint. It is the reduced size copy or miniature facsimile which refers to copies too large to be considered microcopies and yet appreciably smaller than full size.

Nearprint

The nearprint processes generally suffer from an unfortunate name and

from some well meant confusion about their important role in the whole scheme of documentary reproduction. If their good points as well as their limitations are constantly borne in mind, the total utility of the processes will be enhanced. They are good; use them for what they are honestly and do not strive to pretend that they are what they are not.

One difference between printing and nearprinting is sometimes cost — and nearprint is not always cheaper; it may be more rapid and flexible. It is often easier to set up and control an offset or duplicating unit than it is a printing shop within an organization.

Whatever the name of the definition of the process, the past several years have brought much in the way of material progress. New and improved presses, feeders, and other accessories together with magnesium printing plates are all important. There are also direct image plates for use in typewriters and photosensitive and xerographic plates. Photocomposing machines are now in active use and competition with established printing processes. Printing and nearprinting have met and blended so successfully that only the points of labor cost and typography serve as points of distinction.

Other Reproduction Processes

For the most part other reproduction processes are intended to produce a single or a relatively few copies to meet immediate needs in research or office practice where many of these methods have their widest popularity and application. Conventional photography and the making of paper prints from transparent negatives is historically the oldest process. Closely allied and also a well tested convention is photocopying, sometimes called photostating.

A relatively new competitor, Xerography, is suitable for copying direct from an original or for enlarging from microfilm. It is widely used for making offset printing plates. A somewhat similar process is being developed by Radio Corporation of America. Contact copying is always the same size as the original and may be achieved by translucent printing, as the reproduction of a tracing on blueprint or diazo paper or in other ways.

The soft gelatin transfer process exemplified by Verifax and the Photostat Copier will produce several copies of an original on prepared paper, but the image weakens with each successive copy. The diffusion transfer process of which one variation is the Contoura Constat, makes only a single copy from each matrix and the transfer is chemical. There is a method of copying using heat and infrared light on especially prepared sensitive paper, appropriately called the Thermofax. A Photronic reproducer now in development uses an electrostatic field and smoke to make facsimiles by a process not unlike Xerography.

Finally there are the electronic facsimile machines with possibilities of reproducing bound or unbound pages, the former through the coordinate scanner, either in a single location or remotely. Television can provide remote viewing and the image on the tube can be microphotographed, or copies can be made by coupled facsimile transmission.

These brief remarks scarcely do more than indicate the size of the field of "other reproduction processes." There are many sources of supply and commercial firms have underwritten the production of equipment and processes of greatest utility in information handling fields. Here as with microphotography, excellent equipment exists ready for immediate use. If it does not quite meet a particular need, it can be adapted easily by those willing to make the investment.

The National Microfilm Association reaffirms that so far as the microtechniques, nearprint, and other methods of documentary reproduction are concerned, the present holds forth the encouraging promise of assured results to all who have the will and ability to use them.

Recent Developments in PHOTOREPRODUCTION

SLA Photographic Reproduction Committee

CONSIDERABLE choice of equipment and supplies was possible from among the 300 exhibits displayed at the National Business Show, held October 15-19, 1956, in New York City. New developments designed to improve business and commercial operations were reviewed for possible library applications. Copy machines, cameras and readers, planned to meet pressures of expanding business, provide low cost methods of reproducing and making available materials.

Copying Machines

Thermo-Fax* "Fourteen" copy machine, is one of the fastest machines producing positive copies of opaque or translucent originals. The manufacturer is Minnesota Mining and Manufacturing Company, St. Paul, Minnesota. All-electric, it makes positive copies of single sheets up to 14 inches wide. Model 20 is portable and priced at $429. "Premier," another new model introduced by the company, is an all-electric flat-bed book printer. Positive copies, up to 14 inches wide, can be made from bound volumes. The price is $429.

The CORMAC book printer makes copies of pages, up to 11 by 17 inches, from bound volumes or single sheets. It copies from opaque or translucent originals, whether printed, typed, drawn, photographed or in color. The price is $149. It must be combined with either the single unit copier, price range $249 to $419, or with a processing unit, price range $196 to $227. The manufacturer is CORMAC Industries, Inc., New York.

Photorapid's "Compak," a two part unit, includes a flat-bed printer and a developer. The printer comes in two sizes, 8½ by 14 inches, priced at $249, and 14 by 17 inches, priced at $349. Using the diazo process, copies may be made from any kind of opaque or translucent originals. Multiple copies of 1000 or more, produced at less than two cents each, may be made by substituting a Helio developer tray for the standard developer tray. The cost of the Helio tray is $79.50. The manufacturer is Photorapid of America, Inc., New York.

Two new low cost photocopiers are available. The DRI-STAT all-electric "200" copies papers 9 inches wide. It picks up all colors, pencilled notes and details in photographs. Priced at $195, it is manufactured by Peerless Photo Products, Inc., Shoreham, New York. The Verifax Signet Copier is a low priced photocopier manufactured by Eastman Kodak Company, Rochester, New York. It will copy pages up to 8½ by 14 inches wide. The price is $148.

Micro Readers And Copiers

A new portable, micro-opaque reader is available from American Optical Company, Instrument Division, Buffalo, New York. It has an interchangeable magnification of 23 times, 20 times or 15 times on a screen 11 by 12⅝ inches. It weighs 23 pounds and takes cards up to 9 inches wide. There is no heat damage to cards during sustained periods of use because the reader is fan cooled. Photocopies may be made by inserting a sensitized paper at the screen position and then running the paper through a developer. A foot switch controls the photocopy timing. The approximate price is $250.

A portable camera, DIEBOLD 9600, weight 20 pounds, is available from DIEBOLD, Inc., Flofilm Division, Nor-

* Trademark.

walk, Connecticut. Flofilm principle permits any length of copy to be handled. Both sides of a document may be photographed simultaneously. The price is approximately $750.

An Auto-processor is available from Copycat Corporation, New York. It will make prints up to 9 inches wide from microfilm rolls. Sensitized paper is exposed in the film reader for a few seconds. It is then inserted into the Auto-processor where the image is developed and stabilized in a single operation. The price is $198.

Opaque microstrip prints made from a customer's own microfilm, is a service available from Hall and McChesney, Inc., Syracuse, New York. Prints are reproduced as positive strips backed with an adhesive. They may be affixed to one or two sides of a file card and used in a card reader. MYLAR* card protectors are available from Bro-Dart Industries, Inc., Newark, New Jersey.

LORETTA J. KIERSKY
Technical Processes Librarian
Bell Telephone Laboratories, New York

Automatic Microimages

The National Bureau of Standards has announced a device for storing files of microimages, automatically searching these files in terms of instructions to "go to certain addresses" and making photographic prints of the microimages found. The instrument, just developed and presently intended for a limited number of sponsoring goverment agencies, has a real potential for industrial application in special libraries servicing quantities of data of the order of 10,000 units or preferably several times 10,000.

The machine assembles photoprints in a desired sequence at the rate of a print retrieved every 2 seconds from the master micro-file which is randomly stored. Up to 10,000 information-containing photo-frames are stored in miniature on a 10 inch square sheet of microfilm. (We librarians are accustomed to 35mm film with one information-containing frame measuring about 1 inch by 1.5 inches for every "picture.") Questions are asked of the device by means of teletype tape and are answered on a 10 inch wide strip of photosensitive paper of the required length with the microimages "enlarged" to ½ inch squares. Information available at this time is not clear on this phase of the process, but presumably these ½ inch squares are read by means of a micro-opaque reader such as is now used for microprint or microcards.

How much does this machine cost? We don't know because it isn't in production yet. It's like asking how much a 1958 automobile costs, knowing that somewhere one is being test-driven. How big is it? Think of two cigarette vending machines side by side and you have the answer to that one. The important things for special librarians to remember are, first, that the National Bureau of Standards, an agency that does not engage lightly in passing fancies of research, is behind this documentation device, and, second, that the machine holds large quantities of information in the form of drawings, sets of numbers, diagrams and other one-page items. Now they're speaking our language.

ROBERT S. BRAY, Chief
Technical Information Division
Library of Congress

* Trademark of Du Pont

SLA RECEIVES GRANT FOR TRANSLATIONS CENTER

A grant of $20,350 has been awarded to Special Libraries Association by the National Science Foundation. The funds will provide support for the SLA Translations Center at The John Crerar Library in Chicago and will permit translations from the Russian, now held by the Library of Congress, to be transferred to the Center by the end of 1956. The Center, under the direction of John P. Binnington, librarian, Brookhaven National Laboratory, Upton, Long Island, New York, serves as a depository for translations contributed or loaned by Government agencies, scientific societies, industrial concerns, universities and similar organizations.

Report of the Nominating Committee 1956-1957

The Nominating Committee presents to the Executive Board the following candidates for office, all of whom have accepted the nomination:

President

ALBERTA L. BROWN
The Upjohn Company
Kalamazoo, Michigan

First Vice-President and President-Elect

MRS. MARGARET H. FULLER
American Iron and Steel Institute
New York 17, New York

MRS. JEANNE B. NORTH
United Aircraft Corporation
East Hartford 8, Connecticut

Second Vice-President

PAUL W. RILEY
College of Business Administration
Boston College
Chestnut Hill 67, Massachusetts

DONALD WASSON
Council on Foreign Relations, Inc.
New York 21, New York

Directors (Three Years)

(*Elect One*)

MARIAN A. PATTERSON
Academy of Medicine
Toronto 5, Ontario

ROWENA PHILLIPS
The Manufacturers Life Insurance Co.
Toronto 5, Ontario

(*Elect One*)

BEVERLY HICKOK
Institute of Transportation and Traffic Engineering
University of California
Richmond, California

ALLEEN THOMPSON
Atomic Power Equipment Department
General Electric Company
San Jose, California

Respectfully submitted:

AGNES O. HANSON, *Chairman*
MRS. FLORENCE ARMSTRONG
MARGARET CRESSATY
EDWARD H. FENNER
K. GENEVIEVE FORD

Members continuing to serve on the Executive Board for 1957-58 will be Immediate Past-President KATHARINE L. KINDER, Secretary ELEANOR V. WRIGHT, Treasurer WILLIAM S. DOWNEY, and Directors ELIZABETH B. FRY, DR. JERROLD ORNE, DR. ARCH GERLACH, and MRS. CATHERINE D. MACK.

Further nominations may be made upon written petition of ten voting members in good standing. Such petitions, accompanied by written acceptance of the nominees, must be filed with the Executive Secretary of Special Libraries Association at Association Headquarters not later than three months prior to the Annual Meeting.

Have You Heard . . .

National Library of Medicine

The Armed Forces Medical Library will form the nucleus of the National Library of Medicine of the Public Health Service established this year by act of Congress, "to assist the advancement of medical and related sciences and to aid the dissemination and exchange of scientific and other information important to the progress of medicine and to public health." Col. Frank B. Rogers, former director of the Armed Forces Medical Library, will be director of the new National Library of Medicine.

Conference on Work Simplification

As a part of its second biennial session, November 2-3, at Emory University, Georgia Chapter presented a conference on work simplification. Speaking at the opening meeting, Virginia Drewry, library consultant, Georgia State Department of Education, said some state catalog service simplifications were due to limitations imposed by Addressograph reproduction. Other recommended cataloging simplifications included use of the order card in cataloging to avoid rechecking information and excessive handling of books and the elimination of indentions and use of all capital letters to speed card typing.

A second meeting contrasted government documents work in depository and non-depository libraries. The pros and cons of isolated documents collections and the value of documents specialists were covered. Circulation procedures in four libraries were described at a Saturday morning meeting: Emory University's two-slip system; the new one-card, colored tab system of the Georgia Institute of Technology; Southern College of Pharmacy's simplified system for a small specialized library; and the mail order system by which Retail Credit Company library lends to employees all over the country.

At the final session, Ben Carmichael, research engineer, Georgia Engineering Experiment Station, spoke on space-job relationships. Although he showed how plant layout plans and work simplification techniques can be applied to libraries, he concluded with the hope that work simplification would never replace the human understanding which is basic to the work of the librarian.

Dogwood Award Winner

FRANCES KAISER, interlibrary loan librarian, Georgia Institute of Technology, was the recipient of the First Dogwood Award given by SLA's Georgia Chapter. Presentation of the Award, highlight of the Chapter's biennial business meeting, November 3, was made by the Executive Board of Georgia Chapter on the basis of service to the Chapter. Miss Kaiser, as membership chairman, was largely responsible for the steady increase in Chapter membership, which has grown from 10 to 83 in three and a half years. This rapid growth won for the Georgia Chapter the Association's Gavel Award for the past three years.

Essay Contest for Medical Librarians

The Second Annual Murray Gottlieb Prize Essay Contest offers an award of $50 to the medical librarian who writes the best article on some phase of the history of American medicine. Manuscripts from 5,000 to 6,500 words should

be sent to: Editor, *Bulletin of the Medical Library Association* by April 1, 1957. Further instructions appear on the inside front cover of the MLA journal.

Russian Medical Research

The National Institutes of Health has established a new program to help American scientists keep up to date on Russian medical research. The program includes the publication in English translation of representative Soviet journals and scientific publications. These will be distributed by the National Institutes of Health to medical and scientific libraries and to Government agencies and will also be available for purchase. *Biokimiia* (Biochemistry) and *Biulletin 'Eksperimental' noi Biologii i Meditsiny* (Bulletin of Experimental Biology and Medicine) and sections of *Sovetakoe Medetsinskoe Referativnoe Obozrenie* (Soviet Medical Reference Review) will be translated. Publication of a Russian-English medical dictionary and of a directory of Soviet medical and biological research institutes are planned.

Federal Service Entrance Examination

This examination, which covers a wide variety of occupational fields including library science, is open to all college seniors and graduates regardless of their field of major study and to people who have had equivalent experience. Written tests are scheduled for January, February, April, May, July and August 1957. Further information and application forms may be obtained at most post offices or from the Civil Service Commission, Washington, D.C.

Drexel Offers Scholarships

Three full tuition scholarships for the 1957-58 academic year are being offered by the Drexel Institute School of Library Science. Only American citizens who matriculate as full-time students for the Master's degree are eligible. Application with credentials should be sent to the Dean, School of Library Science, 32 and Chestnut Sts., Philadelphia 4, Penna., before April 15, 1957.

SPOTTED

● The New York Coliseum was the scene of great activity during the week of October 15 when the 53rd National Business Show took over three levels of the huge new exposition hall. Thousands of persons interested in new products, mechanical methods and electronic systems crowded more than 300 exhibits of equipment, supplies and services. ● One line of products which attracted considerable attention—perhaps because of the free samples—were water coolers which dispensed hot water for instant coffee, cocoa, boullion or soup as well as cold water for drinking. The purpose is to facilitate coffee-breaks and enterprising organizations can recover the cost of the machines by charging five or ten cents for envelopes of sugar, cream and dehydrated beverages. ● Automation was greatly in evidence. Electronic file-computer systems, such as Univac, stored, retrieved and processed immense amounts of commercial and technical data. A battery of three automatic typewriters, attended by one typist, produced a continual flow of letters. Stacks of mailing pieces were collated, folded, stuffed into envelopes, sealed, stamped and tied up for mailing without assistance from human hands. These and many more devices convinced viewers that the office of the future was about to become a reality. ● Librarians concerned with confidential reports should have seen the Government approved security bars and locks, made by the Reed Manufacturing Company of Waltham, Massachusetts, which enable ordinary file cabinets to meet Government security regulations. ● No-Slip File Strip, manufactured by Evans Specialty Company, Richmond, Virginia, was another product with library applications. It is corrugated aluminum tape which can be cut and fitted to the bottom of file drawers or open shelves to keep cards and periodicals standing upright.

Off The Press . . .

Book Reviews

MODERN ARCHIVES: PRINCIPLES AND TECHNIQUES. *T. R. Schellenberg.* Chicago: University of Chicago Press, 1956. 248 p. $5.

Here is a book for archivists and record officers; their need for just such a volume as this has been felt increasingly since 1934 (when Congress created the National Archives). It is a book for professional librarians and for custodians and curators of special collections as well. To these latter specialists, the book presents a most thoughtful and convincing exposition of the role of the archivist and his relationship to their own well established functions.

The author, Dr. Theodore R. Schellenberg, is well prepared for the writing of this comprehensive yet readable study on modern archives, having joined the infant staff of the National Archives in 1935. In that institution he served in many capacities during the period the principles and techniques of which he writes so ably were being formulated and perfected. He is, at present, director of archival management there. In this capacity, he has responsibility for administration of a sound records program and for solution of critical problems that arise concerning the Government's continuous accumulation of record materials. In writing of these matters, the author conveys to his readers his personal sense of the enormity of the consequences of decisions that must be made in determining the ultimate fate of our public records and of their significance to our future.

The book is most informative, particularly in reference to the history of archival economy in European institutions concerned with the more traditional concept of ancient archives. Although the author treats primarily of modern archives, with emphasis on production controls, simplification of operations and space-saving, he has achieved a nice balance between these aims and the responsibilities of an archivist for the preservation, availability and use of the records entrusted to his care.

The chapter devoted to the disposition of records, whether by microfilming or other methods of duplication, by transfer to records centers for varying lengths of time, by deposit in an archival institution, or by outright destruction under the law is written for the true archivist. In the opinion of the author, disposition of records is not the function of the librarian, the historian, the efficiency expert, the technician, or the antiquarian but of the archivist who is thoroughly versed in legislation concerning disposal, familiar with the operations of all the agencies with which he deals, and experienced in appraisal of records values, both evidential and informational.

But the librarian will be intrigued by his chapter on library relationships. Here he will find a remarkably lucid statement on the differences in the holdings and in the techniques of the librarian and the archivist. He will find that the author, while confining each to his separate sphere, pays tribute to the methodology developed by library science and to the accomplishments of the librarian in preserving public archives during a time when no archival institutions existed in the United States to provide for them. He has, furthermore, a keen appreciation for the immense reference resources of the library on which the archivist must, to a large extent, rely. The librarian will be enlightened by the wealth of information provided on the origins of American filing systems, classification schemes and indexes, developed in years past by the keepers of the Government's records.

The book is authoritative but not official in the sense of being a government publication. First published in Australia earlier this year in recognition of a Fulbright lectureship there in 1954, Dr. Schellenberg brought out the American edition almost immediately. There is no difference in the text of the two editions. *Modern Archives,* the first book to treat of the subject, is destined to take its place beside the classic volume published by the Dutch archivists, Muller, Feith and Fruin in 1898, and Sir Hilary Jenkinson's book on archives administration, published in 1922 and devoted to the British system. Dr. Schellenberg's book concerning the public records of the United States is essential to the archivist and challenging to the philosophy of the librarian.

JOSEPHINE COBB, Chief
Still Picture Section, The National Archives

UNION CATALOGUES: Their Problems and Organization. *L. Brummel.* Paris: UNESCO; New York: UNESCO Publications Center, 1956, 94 p. $1.60.

Dr. L. Brummel, Secretary-General of the International Advisory Committee on Bibliography, has prepared this manual, sixth in a series of UNESCO bibliographical handbooks. He is an expert on the subject, being Director of the Royal Library of the Netherlands, a library containing two of the best and oldest union catalogs in existence.

The book has six chapters: historical notes, general principles, principles of organization, methods of organization, union catalogs in

action, national and regional union catalogs, and publication of union catalogs. Each chapter gives evidence of much research on its subject. The volume is not indexed but lists the literature used or cited.

The purpose for which this detailed study was undertaken—to prove useful to all countries and in particular to those intending to compile union catalogs—has been fulfilled. Its use in many special libraries is limited except to those wishing insight in the organization of national bibliographical services.

RACHEL MACDONALD
Ford Motor Company, Dearborn, Michigan

SCIENTIFIC SERIALS: CHARACTERISTICS AND LISTS OF MOST CITED PUBLICATIONS IN MATHEMATICS, PHYSICS, CHEMISTRY, GEOLOGY, PHYSIOLOGY, BOTANY, ZOOLOGY, and ENTOMOLOGY (ACRL Monograph No. 16). *Charles Harvey Brown,* with a section by Roger V. Krumm. Chicago: Association of College and Reference Libraries, 1956. 189 p. $4.25.

Dr. Brown has analyzed 37,834 citations from recent scientific journals to 838 serials. The correlation of information was based on various counts of citations: 1) to show the relative importance of leading serials to science as a whole; 2) to rank the relative importance of 100 serials in each of eight fields; 3) to show the relative importance of older volumes and current issues of individual serials and to interpolate trends for the future; and 4) to appraise the relative importance of the literature of individual countries in the past, present and the outlook for the future.

These data are also discussed with regard to current procedures used in selection of serials and to interlibrary and regional cooperation, storage and discarding.

This contribution from a lifetime of experience and planned research on scientific journal literature will be appreciated by librarians working in colleges and industries. It will help them to evaluate old files of serials and it indicates those most useful currently and those becoming "musts" for scientific libraries. Dr. Brown points out how more serials can become available to scientists by cooperative policies of acquisition, storage and discarding on regional bases. Thus, scientists could have access to a greater percentage of the 50,000 scientific periodicals now published and to the 100,000 titles which are the projected totals for 25 years in the future.

M. M. PISKUR, Librarian
Swift & Company, Chicago

New Serials

COMBUSTION & FLAME. Papers on combustion and flame which have appeared previously in widely scattered journals will be published in this official journal of the Combustion Institute (International). Volume I, Number 1 of the new quarterly will be published January 1957. The annual subscription rate is $16. A combined subscription rate with *Fuel* is offered at $25 a year. Orders should be addressed to Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y.

UNION LIST OF LIBRARY PERIODICALS. Journals publishing original material on librarianship, documentation, bibliography or archives are included in this list of periodicals received by more than two hundred libraries in the United States, Canada, Mexico and some major European libraries. Libraries are coded as in *New Serial Titles.* Supplementary information about new periodicals or journals which have been omitted will appear in future issues of *Contents in Advance.* The *Union List* is sent gratis to all 1955 subscribers to *Contents in Advance,* and $3.00 a copy to nonsubscribers. Orders should be addressed to *Contents in Advance,* Box 7521, Philadelphia 1, Pennsylvania.

U. S. GOVERNMENT STATISTICS. The first in a series of three publications consists of an annotated guide and index to statistical material in government publications. The guide (part I) lists titles by issuing agency with a brief description of statistical content and frequency of issue. The index (part II) lists by subject the statistical data of publications noted in part I. Three quarterly supplements will be issued to part I. Subscription for the 1956 series at $15 is available from Documents Index, Box 453, Arlington 10, Virginia.

SLA Authors

FIELD, OLIVER T. An Experiment in Catalog Reform. *College and Research Libraries,* vol. 17, no. 5, September 1956, p. 414-419.

GARVIN, ELSIE L., comp. *Bibliography on High-Speed Photography.* London: Third International Congress on High-Speed Photography, 1956. pap. 36 p. (Limited number of copies available gratis upon request from Research Library, Eastman Kodak Company, Kodak Park Works, Rochester 4, New York.)

HOLT, HELEN M. Merger of Facilities Provides an Outstanding Medical Library. *The Pioneer,* vol. 19, no. 4, July-August 1956, p. 3-5.

KAISER, JOHN BOYNTON. John Cotton Dana, Versatile Genius. *ALA Bulletin,* vol. 50, no. 8, September 1956, p. 515-516.

SHERA, JESSE H. and EGAN, MARGARET E. *The Classified Catalog: Basic Principles and Practices* Chicago: American Library Association, 1956. 130 p. $4.

SHIPMAN, JOSEPH C. Reference Library is Planned to Offer Ideal Book Accessibility. *The Pioneer,* vol. 19, no. 4, July-August 1956, p. 8-9.

STUBKJAER, MYRTLE. Institutions and Their Libraries . . . How They Grew. *Minnesota Libraries,* vol. 18, no. 7, September 1956, p. 197-203.

WASSERMAN, PAUL and MCCARTHY, STEPHEN A. On Developing an Administration Library for a Foreign University. *College and Research Libraries,* vol. 17, no. 5, September 1956, p. 375-380.

Recent References
Bibliographies

AMERICA IN FICTION: An Annotated List of Novels That Interpret Aspects of Life in the United States, 4th ed. *Otis W. Coan* and *Richard G. Lillard.* Stanford, Calif.: Stanford University Press, 1956. 206 p. pap. $3.

AUTOMATION AND ELECTRONICS: A Guide to Company Experience. *Henry C. Thole.* Kalamazoo, Mich.: Management Research Service, 1342 Cherry Street, 1956. 26 p. pap. $1.

A bibliography of 200 case studies in the fields of automation, electronics, and general management.

CANADIAN MAPS 1949 TO 1954 (Bibliographical Series no. 16). Ottawa: Department of Mines and Technical Surveys, Geographical Branch, 1956. 92 p. 50 cents.

Part I: selected bibliography of maps of Canada, its provinces and territories, published by governmental and other agencies; Part II: list of map sheets of the federal topographical series.

INTERNATIONAL INSTITUTIONS AND INTERNATIONAL ORGANIZATION: A Select Bibliography, (FID Publication no. 292). *G. P. Speeckaert,* comp. Brussels: Union of International Associations, Palais d'Egmont, 1956. 116 p. pap. $2.

Includes listings on structure and operating methods of international organizations, their legal status, relations between intergovernmental and nongovernmental organizations, special problems, and publications. Author index.

LEADERS OF TWENTIETH-CENTURY CHINA: An Annotated Bibliography of Selected Chinese Biographical Works in the Hoover Library, (Hoover Institute and Library Bibliographical Series IV). *Eugene Wu.* Stanford, Calif.: Stanford University Press, 1956. 114 p. pap. $2.50.

A LIST OF WORTHWHILE LIFE INSURANCE BOOKS. New York: The Institute of Life Insurance, 488 Madison Ave., 1856. 28 p. pap. Gratis.

PUBLIC RELATIONS OF THE RAILROAD INDUSTRY IN THE UNITED STATES: A Bibliography 1808-1955. *Helen R. Richardson,* comp. Washington, D.C.: Association of American Railroads, Bureau of Railway Economics Library, 1956. 154 p. pap. Gratis.

A SELECTED AND ANNOTATED BIBLIOGRAPHY OF PRODUCT PLANNING AND DEVELOPMENT. *Fred A. Rothberger.* Austin, Texas: New Product Digest, Inc., P. O. Box 582, 1956. 40 p. pap. $5.

A SELECTED BIBLIOGRAPHY OF THE PORT OF NEW YORK AUTHORITY 1921-1956. New York: The Port of New York Authority, 1956. 66 p. pap. Gratis.

About 60 subject divisions cover history, administration, terminals, operation and maintenance.

TRAFFIC SAFETY INDEX: Publications Printed During 1955, vol. 1. Chicago: National Safety Council, 425 No. Michigan Ave., 1956. 33 p. pap. Single copy, gratis; additional, 25 cents.

Includes books, pamphlets, and magazine articles devoted to the technical aspects of traffice safety or to the development of traffic safety programs.

Miscellaneous References

AFRICAN NEWSPAPERS CURRENTLY RECEIVED IN SELECTED AMERICAN LIBRARIES. Reference Dept., Library of Congress. Washington, D.C.: Card Division, Library of Congress. 22 p. pap. 25 cents.

A CONCISE DICTIONARY OF ENGLISH SLANG. *William Freeman.* New York: Philosophical Library, 1956. 268 p. $3.75.

DRUGS IN CURRENT USE 1956. *Walter Modell,* ed. New York: Springer Publishing Co., 1956. 160 p. pap. $2. Less in quantities.

An alphabetical listing of drugs with data essential to safe use and handling.

THE GROWING SHORTAGE OF SCIENTISTS AND ENGINEERS: Proceedings of the Sixth Thomas Alva Edison Foundation Institute, November 21-22, 1955. New York: New York University Press, 1956. 132 p. pap.$4.

HANDBOOK OF HISPANIC SOURCE MATERIALS AND RESEARCH ORGANIZATIONS IN THE UNITED STATES, 2nd ed. *Ronald Hilton,* ed. Stanford, Calif.: Stanford University Press, 1956. 448 p. $10.

HOW TO ORGANIZE AND ADMINISTER AN EMPLOYEE TRAINING PROGRAM: A Manual for Executives and Training Directors, (Pamphlet no. 11). *Homer T. Rosenberger.* Washington, D.C.: Society for Personnel Administration, 5506 Connecticut Ave., N.W., 1956. 42 p. pap. $1.

JEWS IN THE WORLD OF SCIENCE. *Harry Cohen* and *Itzhak J. Carmin,* eds. White Plains, N. Y.: Monde Publishers, 8 Cushman Road, 1956. 264 p. $18.
A biographical dictionary of 3500 Jews who have contributed to the natural and social sciences in more than 70 countries. Includes illustrated essays by scientific authorities.

SERVICES AVAILABLE TO INDUSTRY IN NEW JERSEY: A List of Representative Sources of Advice and Assistance Available to New Jersey Industry for Aid in Solving Industrial Problems (Engineering Research Bulletin no. 38). *Ruth Bates Ahrens* and *Robert K. Bogardus.* New Brunswick, N. J.: College of Engineering, Rutgers University, 1956. 96 p. pap.

SURVEY OF RESEARCH PROJECTS IN THE FIELD OF AVIATION SAFETY, fifth annual supplement, July 1956. New York: The Daniel & Florence Guggenheim Aviation Safety Center at Cornell University, 468 Fourth Ave., 1956. 24 p. pap.
Lists information on non-classified research conducted in various fields of aviation safety.

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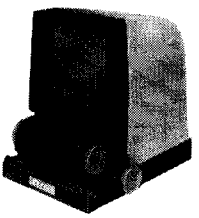

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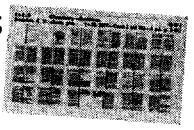

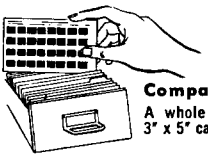

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Hedwigia. Organ fur Kryptogamenkunde und Phytopathologie Nebst Repertorium fur Kryptogamische Literatur. Vols. 1-82 (1852-1944). 699 cards..... **$190.60**

CHEMISTRY

Annalen Der Chemie (also known as "Liebig's Annalen"). Vols. 1-554 (1832-1943). 8 supplements and 8 indices, covering vols. 1-500 (1832-1933). 4,920 cards..... **$1,008.80**

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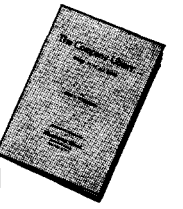

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