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PRESERVATION AND CONTROL OF CHINESE MATERIALS IN THE EAST ASIAN LIBRARY, COLUMBIA UNIVERSITY

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1. Introduction

This paper describes the principal steps in the process of preservation carried out in the East Asian Library (EAL) of Columbia University by the Chinese Section during 1975-1978 and 1979-1981. I am not sure that anyone previously has described in detail the execution of a preservation project for Chinese books—not that it is greatly different from preserving other kinds of materials. The preservation of Chinese books, however, has some unusual features. Our first preservation effort was a three-year project, funded by a matching grant provided by the Andrew W. Mellon Foundation. This project filmed 1,279 titles, comprising 268 serial titles and 1,011 monograph titles, resulting in 282 reels representing 282,858 frames, or about half a million pages. At the onset of this project, a reorganization of our retrospective microfilm collection—i.e., all films in the collection acquired prior to 1975—was carried out in order to set up a new "Microform Shelf-list". Our second preservation project was a one-year operation, extended by half a year to allow reconstruction of the Photographic Services facility, including the installation of new equipment. The second project filmed a total of 899 titles, including 817 monographic, 82 serial, and 22 newspaper items. These were filmed in 188 reels, amounting to 205,018 frames.

In describing the procedures of preservation, I shall add background comments and give a few personal observations. In carrying out work of this kind, one naturally hopes for perfection, elusive or illusory as it may be. As I look back on the two projects, it is clear that some of the procedures were not entirely satisfactory or ideal; but other imperatives and developments were taking place (as they invariably do), and adjustments had to be made. The work that was accomplished is probably similar to that performed in other libraries. Nonetheless, a work plan has to be made to fit the physical layout and operating traditions of a particular institution. The working arena, the transport of the materials as they move through the processing stages, the number of participants, their training, and the various transactions, all must be made to fit together as the work is orchestrated. Unless one has the wisdom of Solomon, a preservation process that appears to be very simple and clear cut, when conceptualized in words, will in practice translate into a cumbersome task that devours the hours allotted for assistance. In an older collection, such as Columbia's, to focus attention on a large segment acquired 40 or more years ago will also lay bare historical problems that have lain dormant and hidden: inconsistencies, irregularities, and vacuums of bibliographic treatment that cannot be ignored and that must be handed over to the regular staff for correction. The preservation project thus generates unexpected collateral work, beyond its own confines, which involves in one way or another all of the staff in all of the departments. If you are to follow recommended guidelines, some of the stages of preservation are labor-intensive transactions, in a way that no one anticipated, and that your administrative overseers cannot believe to be justified. One always has the feeling that help is in short supply, particularly if one is committed to maintaining continuous
user access to the books in process. It may take months to a year before the microfilm is ready for use by readers.

When we began, none of us had had any experience in preservation on such a broad scale and we had no blueprint to follow. Fortunately, at the time our project began we had in the EAL Mr. Philip Adair, an experienced photographer, under contract to the Genealogical Society of Utah; he gave us good advice on filming techniques. It is also fortunate that the first project, which focused on books that had priority by reason of the critical degree of their deterioration, was completed before an elaborate interior reconstruction of the EAL began in 1979. During this renovation, major parts of the collection had to be moved repeatedly from place to place, from room to room, and from level to level, in order to keep out of the way of the carpenters, electricians, plasterers, painters, metal workers, cement layers, and demolition crews. Had the renovation of the Library been undertaken earlier, I am convinced that the books treated in the first project would not have survived the turmoil. The second project, which coincided with the reconstruction, treated items left over from the first project and included additional items that had by then been identified as endangered. By then, however, we knew a little better what we were doing, and by boxing the books managed to keep them out of harm’s way. The completion of the new C. V. STARR EAST ASIAN LIBRARY in the summer of 1982 doubled our stack space and provided air conditioning, a new elevator, and stairs. The result is very handsome and the staff has nearly recovered from the inevitable dislocation.

The Chinese Collection, when I came to Columbia in July, 1974, was in extremis. I had never seen a library with such a large preservation and maintenance problem. The library suffered acutely from overcrowding; the stacks were insufferably hot and humid in summer; and the windows at ground level, opening onto the stacks, permitted a measurable stratum of black, particulate street dust to build up on the books and shelves. Maintenance, compared with other libraries in the Columbia library system, was beyond belief inadequate. The Chinese Collection was then reported to contain about 50,000 titles in just over 200,000 volumes. Of these, about 40 percent predated the Republican era of China and about 25 percent were publications printed between 1912 and 1949. There was no inventory by imprint date. I would not like to cite these figures as real statistics; they are merely estimates that I make to point out in a chronological context where the mass of deterioration was located. It is just within the latter span of years that pulp paper came to be used with increasing frequency and that publishing flourished phenomenally in China. The consequence is that one would naturally expect books of this period to begin to show the effects of aging after 40 to 60 years. Paper degrades progressively according to composition, exposure to light, heat, humidity, contamination by organic and inorganic substances, friction, and pressure; and the gamut of deterioration of every kind and degree was exhibited in the Chinese Collection.

Many of the books published in the first half of the Chinese Republic were acquired by Columbia University as gifts from, or through the offices of, the Chinese foreign students who were then studying at the University. In the 1920s and 1930s, American academic interest in China—what there was—was mainly fixed on the Classics and traditional studies of Imperial China. Books that related to the contemporary social, political, and economic problems of China as a nation
experiencing revolutionary change, of a country embroiled in an epidemic of political and military adventures, were of relatively little interest to the average Western student and faculty member. Those contemporary publications, concerned with contemporary questions, that came to the library were largely acquired by and for our Chinese students. My colleague, Mr. Hung-i Wang, Chinese Cataloger, who was a student at Columbia University in the 1940s, has made a study of the history of the Chinese Collection and its origins. His article, Ko-lun-pi-ya Ta-haeh Chung-wen t'u-shu-kuan chien-shih: published in the Kuo-li Chung-yang t'u-shu-kuan kuan-k'an: vol. 13, no. 1, pp. 35-44, gives the above insights.

Books of this vintage may not be numerous in East Asian libraries established after World War II. Many of these books exist only in China, or perhaps in Taiwan. Without doubt, there are copies of some in the great libraries of the Chinese Mainland; but we know that there were depredations in many libraries after 1937 and during the Cultural Revolution. The fact is that we do not have easy access to these older books in China. So far as we are concerned in this country, were it not for the collections of the great older American libraries, such as those of the Library of Congress, the Harvard-Yenching Library, the Hoover Institution, and Columbia, we might have a difficult time finding access to many of these items.

At any rate, to speculate further, it may actually be owing to the relative lack of interest in these books, and their being largely ignored by users for decades, that they have survived...quietly sitting on the shelves and growing old. Times have changed. Growing numbers of students, researchers, art historians, statisticians, professors, and visiting scholars are now crowding in on these frail items, searching, verifying, taking notes, and wanting xerox copies. It is a June and December match between vigorous readers and superannuated books.

II. Survey

Many books in a brittle condition can be identified by sight on the shelves. If the pages of bound volumes are handled with any pressure or tension, the leaves at the front, back, or middle often crack and detach when the book is opened, and they will shift up or down and stick out when the book is closed and replaced on the shelf. Exposed edges then flake, and are found on the shelf and on the floor near the book. A standard test for determining whether a book is "brittle" is to fold a corner of a page three times. If the tip breaks off at the fold, the paper is regarded as "brittle".

Oxidation of paper causes a brown coloration in the common run of Chinese publications. It is, after all, analogous chemically to the burning of a book in a fire, the difference being that the process is imperceptibly gradual over a period of time. Color, however, is not by itself always indicative of oxidized deterioration. Some Chinese rag or fibrous acid-free papers have a brown color when they are published, and these remain very strong and stable. The color may be from an insect-repellent dye, though I believe this is more likely to be
the case in pre-modern paper than in paper of the Republican Era. A familiar example is the Sau-pu ta'ung-k'’an: 岷郡叢刊). This was published and reprinted in the 1930s in both a white-paper and a brown-paper edition. The two editions, several sets of which I have seen, appear to be equally stable today. Still, I have seen volumes of the set in brown paper that were brittle. One cannot, after all, be certain as to the kind of paper a publisher might have used.

White paper with a clay content also becomes very brittle with age, but without discoloration, particularly pictorials and plates. These simply crack into fragments like thin ice. When paper stock was hard to come by, publishers had to use whatever they could get their hands on. One can go into the stacks and see bound volumes of periodicals in which most of the issues, printed on white paper, are stable and unchanged after decades, while one or more intermediate issues of a different stock are oxidized to a brown color and are very brittle.

Editions of literary and historical works regarded by the publisher as important or prestigious publications were, and still are, printed on high-quality, acid-free paper in stitched binding. The cover papers of fascicles, or "te'se" עיון, are often of a lower grade paper that abrades, tears, and eventually becomes brittle. Binding threads of fascicles also become weak and break with age and the cases or "ce'ao" 青, the blue cloth boxes with bone (or plastic) pins, fall apart after 40 or 50 years.

One may say that there is an intrinsic and an extrinsic deterioration. The former means that the paper of the body of the book is fragile or brittle. Extrinsic deterioration is the superficial, outer part: the cover paper of the fascicles, the threads, the cases, or the binding in western format.

Members of the Chinese Section, carrying pencils and pads, went into the stacks and counted in columns the pagination of all of the brittle books on the shelves. They grouped them by size: 100 pages or less; 101-200 pages; 201-300 pages; 400; 500; and so on. We stopped with a figure of over 2,000,000 pages. The deterioration in the collection was so gross and pervasive that it was simply not practicable, within the scope of the project, to handle such a quantity. Consequently, priority was given to items that exhibited critical intrinsic deterioration. We separated out the books with extrinsic problems; these did not show signs of decay, but to be serviceable they urgently needed rebinding, repair, or new containers. A considerable number of books manifested by color or by the brittle test that they would need consideration as candidates for treatment at some time in the future; but as they were firmly and securely bound and intact, I decided that they could be deferred for the present. Priority had to be given to books that could not survive the ordinary give and take of continued standing on library shelves in the open stacks. It was imperative that we remove them to a quiet, closed area where they would be safe and could be programmed for evaluation and treatment. Although the books were withdrawn from the open stack shelves, continued access had to be maintained, since many of them were in demand as important resources. We had to signal to users that the books were not on the shelves in their call-number place, but that they could be paged on request and used with care under supervision. Readers, almost without exception, wanted to make instant photocopies from the brittle books. We could not allow this, as it too often
destroyed the pages. The shelf-list and title cards in the public catalog were covered with plastic jackets which carried an orange line at the top as a signal that the item was withdrawn for preservation. Cards other than the title card were removed from the public catalog and placed with the book. This was to provide a bibliographic assistant with the information needed to write up a "target" (this item will be explained later under "Filming") if the book were evaluated as suitable for filming. In a number of instances, the card itself was photographed as a part of the "target". Having isolated a large number of books for protection on segregated shelving, we now had to answer the question, "Can we spend as much as 35 cents a page (including both filming and bibliographical costs) to film a particular book, or would it be better to use that money to buy a different book?" We shall discuss this next, under "Evaluation".

III. Evaluation

The deteriorated books that were placed on segregated holding shelves were arranged in two groups: Monographs and Serials, in call-number order. They could be paged if needed. Books with extrinsic, or superficial, deterioration, provided they met our selection criteria, were sent to the bindery for repair or rebinding. Many books were "de-selected", or withdrawn. A large number of fine old editions on excellent paper had been bound at Columbia years ago in light pamphlet bindings that had rotted into shabby, disintegrating covers. These could be removed easily from the fascicules without damaging them, and the works could be reconstituted "like new" by recovering and resewing. We bought silk thread and acid-free paper for new covers. New cases (t'ao) were ordered from Hong Kong. All of these books were returned to the regular stacks after processing.

We reviewed the University Libraries Collection Policy as it applied to the East Asian Collection. In scheduling a book for treatment of any kind, we followed very closely the criteria that applied to acquisitions, and deemed that committing resources to preservation is, in a sense, buying the book a second time. It became clear at the very beginning that a number of the books in the collection had a limited research value. Many books that were formerly useful to readers were now out of date. Examples are textbooks, such as "Elements of Accounting" (1934); the "Outlines..." of the history of various nations; basic science books; and what I call the "jinghua" 精華 kind of book, i.e., the "Highlights", or "Gems of..." type of book. Many popular editions of such selections were published in the 1930s, frequently in small, dense print on paper which could not last. These were deemed expendable and were withdrawn from the collection. A catalog card for each withdrawn book was coded numerically to show the basis of the decision and filed for statistics in a "Withdrawn File". All other records of the book were destroyed. The numerical code is reproduced below. This code, which was put into effect on August 21, 1980, replaces a somewhat more complex code which had been used since 1974.

**Withdrawn File**

Code for marking books to be withdrawn and discarded. Mark and date withdrawn cards.
Three streams were thus generated from the Brittle Book Collection: one for repair, a second for withdrawal, and a third for preservation. The decisions for the second and third streams were not always easy. Staff perceptions of what was "significant"—to whom, and in what context, or for what reason—and even the definitions of the words "research" and "value," came in for brisk discussion when we had to consider some of the titles. I gave careful attention to the opinions of my colleagues (who are in many respects more knowledgeable than I am); but as project supervisor, with ultimate responsibility, I tended to take a conservative position when it came to discarding. I would be a little more critical now, I believe.

In the case of editions of a given title, we preserved those with distinctive features that would be useful to the reader, such as annotation, punctuation, and, in some cases, the superlative illustrations that were popular and common in the printing of that epoch. In making a judgment that a book has a value to a collection, one is supposed to consider the "significance" of the book. This is a rather difficult, and perhaps sometimes even political, concept that I am not very comfortable with. Is my opinion on the significance of a book trustworthy? Evaluation must be based upon a degree of erudition, knowledge of relevant conditions, and, I suppose, common sense. Past performance is perhaps the only reliable measure by which to deduce that evaluations were reasonable. At any rate, the question whether a book is significant regionally and nationally, as well as to your own collection, is being asked more and more nowadays as more and more books reach the condition where a choice must be made to discard or to preserve. We cannot and perhaps should not attempt to preserve everything. We would be mired in the world's literary and publishing effluvia. Flinch as one might, one has to grapple with this question of utility, interest, taste, and need, fringed with considerations of cost, space, time, and staff. In making these choices, we tried to simplify them mechanically somewhat in the next step of the process, "Searching."

IV. Searching

A search was generally made to discover whether there were holdings of a title in other libraries, whether there was a reprint available, or whether the title had already been microfilmed. I must now qualify this. Searching is a labor-intensive process and at the time of our first preservation effort, the "hit" rate was not very rewarding. In the first place, there were not a great many sources in which to search; nonetheless, they seemed very many when one had to search the same title in each source. Many East Asian libraries are separated
from the main library where bibliographic tools such as the National Union Catalog (NUC), the National Register of Microform Masters (NRMM), Newspapers in Microform (NIM), the Register of Additional Locations, the Subject Guide to Microforms in Print (SGTMIP), Serials in Microform (SIM), etc., can be consulted. I had to weigh spending the time to search a particular set of titles in a remote location against other pressures of performance. We came to rely primarily on the published catalogs of the major East Asian Collections, issued by G. K. Hall, the Center for Chinese Research Materials, and the Library of Congress that were at hand in the East Asian Library. We also used the bibliographic yearbooks of Taiwan for reprints and the LC Union Card File of Chinese Serials, issued on microfilm by the Library of Congress. We searched deliberately and selectively. If a book consisted of a substantial amount of text, the searching was as exhaustive as possible. However, for items representing fewer than 100 frames, the decision to search or not to search was frequently based on a gut reaction determined by the kind of book, and on our appreciation of its content, importance, affinity to our collection guidelines, etc. The quantity of material to be processed within the finite time frame of the project, as well as the availability and deployment of hands to execute the transactions at the several stages of the assembly line, meant that bottlenecks could not be allowed to build. We made every effort to be critical in the judgments; however, for some of the smaller, almost pamphlet kind of publication that we felt were unlikely to be republished commercially, we checked only against the CCRM publications and the NRMM. It would have been difficult, indeed, to have checked mechanically every tool for every title.

To ease the onus of searching so many catalogs and lists, I made a central source file from citations of Chinese microforms found in the NRMM, NIM, MIP, and all of the catalogs that included microforms that could at the time be found. A card with the citation data and source, filed in a single alphabet, was compiled. This file, termed the "General Microfilm File", was probably as comprehensive as any in existence at the time. It was not exhaustive, however; I was unable to incorporate copies of the Harvard-Yenching microform shelf-list which Dr. Eugene Wu allowed me to make.

The beauty of the automated records for microforms that are at present being entered is that one will be able to conduct searches at the terminal and make much better informed decisions. Subsequent to the time of our first project, the NUC on microfiche, the Chinese Cooperative Catalog of the Library of Congress, the recent Michigan collection catalog, and the serial catalogs of the University of Chicago and of the Library of Congress have become available locally. Greatly improved reporting to the NRMM and the NIM is also of considerable help.

Another direction of the search process, aside from seeking alternate hard copy, is to search for reprints. Titles checked for which reprints were available were ordered when the cost was not beyond our means. Otherwise the books were, and still are, simply held in the Brittle Book Collection. We have preferred replacement in microform over hard copy reprint in general whenever there was a choice, the exception being certain reference works. It is interesting (and somewhat distressing) to discover several years after one has filmed the "unique" copy of a serial issue, that Hong Kong, Taiwan, or just recently the PRC, has just advertised a complete reprint of the run. There are, in fact, instances...
of multiple copies on microfilm produced over the years by more than one institution, unbeknownst to one another. This is less likely to occur now, because of centralized reporting to the NMRM and increased consciousness with regard to preservation. However, one also can find examples of reprints and microfilm produced by organizations and publishers that no longer exist.

V. Filming

With the decision that a book we had evaluated and searched was one that we would buy if we could, in either reprint or microform, but for which our only options were to buy or film ourselves, we began the preparation to film. Most of the older brittle books had been cataloged prior to 1958. The pre-'58 cataloging of East Asian books was often a kind of minimal level cataloging: the cards lacked romanized entries and the descriptive features that characterize standard contemporary cataloging, such as full development of notes, tracings, and subject headings. Thus, a predominant proportion of the books scheduled for preservation required recataloging as microfilms.

A "target" sheet is now standard at the beginning of a microform. This describes the item on the film and for the microform is perhaps analogous to a title page and colophon. It also provides the technical data of the photographic format. It is also now standard that titles readable without magnification appear at the beginning of all microforms. This was not done at Columbia at the time of our first preservation project, but such titles are a feature of our second project, performed on Title II-C funds. Older microfilms sometimes lack targets, and one cannot determine when, where, or by whom the film was produced. Many older Chinese films made in the United States by operators unfamiliar with Chinese are out of serial order, and sometimes one finds an issue photographed upside down. As publishers sometimes change the title, the numbering, or even the direction of printing, it is recommended that the camera operator be familiar with Chinese script. Catalogers were asked to catalog as many of the books as possible before the actual filming so that a full catalog record of the book could be introduced into the target. However, the task of cataloging sometimes requires reference work, comparison of editions, consultation, or other bibliographical transactions, the nature of which will not allow it to keep pace with the tempo of the camera work in a sustained preservation project. Consequently, the majority of the books filmed have target sheets carrying only the basic bibliographic data. In some cases the old cards were filmed.

When books are filmed, a book "cradle" is used to level the two sides of the open book, and a glass plate is placed over the book to keep the pages down. Removing and replacing the plate repeatedly to turn pages is one of the causes of high labor cost. Flakes and dust tend to adhere to the glass plate by electrostatics and the plate must be cleaned continuously. Such foreign objects will obliterate characters in the photographed text and appear as blank spots, similar to holes in the page. Generally, a black sheet of paper is inserted behind a page with holes, lest characters from the adjacent page appear giving a garbled reading. When a page is incomplete or mutilated, a notice is inserted to warn the reader. We decided that because it is our policy to discard brittle books after filming,
we would shear (i.e. remove) the spines of targeted books before filming. By doing so, we could lay the pages flat, sheet by sheet, under the camera, without the need of a book "cradle" or a glass plate. It also prevented the distortion of the lines of print adjacent to the "gutter" of the book, a result which often cannot be avoided in filming bound books. Shearing the spines greatly facilitated the filming. There were some twinges of regret and dismay among users of the library when they discovered that we were discarding brittle books after filming. However, even though many of the books were, in a sense, rare, we do not have the means of establishing a museum within the library for a collection of fragile books too delicate to be used.

As the books were filmed by the camera operator, a camera log was maintained. The operator recorded the date of filming, the call number, the master negative number, the author or statement of responsibility, the title, imprint, collation, and in the case of serials, the issue numbers and dates. As the filming of each item was completed, the camera counter automatically registered the number of exposures, and this was recorded. Various notices were filmed to alert the reader of certain features, faults, or instructions. We were instructed in this refinement of filming technique by Mr. Philip Adair of the Genealogical Society of Utah. Many earlier Chinese films produced at Columbia lack any warnings or enumerative notices. Following are examples of the notices we used. (The abbreviation MN stands for "Master Negative").

<table>
<thead>
<tr>
<th>Notice</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Begin</td>
<td>Page(s) [number] Missing</td>
</tr>
<tr>
<td>End of Film</td>
<td>Page [number] Mutilated</td>
</tr>
<tr>
<td>Rewind</td>
<td>Page Incomplete</td>
</tr>
<tr>
<td>Master Negative [number]</td>
<td>Page Missing</td>
</tr>
<tr>
<td>Volume [number]</td>
<td>[volume, chapter, section] Missing</td>
</tr>
<tr>
<td>[issue] Number</td>
<td>Fold Out</td>
</tr>
<tr>
<td></td>
<td>Continued on next reel</td>
</tr>
<tr>
<td></td>
<td>Continued on MN reel [number]</td>
</tr>
<tr>
<td></td>
<td>Continued from MN reel [number]</td>
</tr>
</tbody>
</table>

Any useful notice can be inserted, of course, to inform the reader, and the above list is merely what I recall having used. I also insisted upon a number of blank spaces to separate individual items, volumes, and issues, so that in fast forward and reverse, the beginnings and ends of items can be spotted readily by the viewer.

When the master negative was proofread, the books with the targets were returned to the cataloger's shelves for cataloging as microfilms. The targets were marked by the camera operator with date, frame number, and master negative number of the reels, which were retained at Reprography. Notice was made on the targets of any necessary advice to the cataloger of textual discrepancies discovered, such as missing pages, etc. There were, therefore, shelves for Unfilmed items to-be-cataloged and Filmed items to-be-cataloged. Prefilm cataloging was for important or descriptively complex materials and post-film cataloging was for straightforward, simple items that posed no problems for the bibliographic assistant or the camera operator either to describe correctly in the target or to organize for the camera.
A positive print, or service copy, of the microfilm was produced by Reprography and sent to the East Asian Library. Since 1977, all Chinese master negatives have been stored in the Reprography Section of the Columbia Libraries' Preservation Department.

Originally, all microfilms were classified in the Harvard-Yenching Classification Scheme notations. In 1976, we decided to declassify the films produced prior to 1975 and establish a separate microform shelf-list, using accession numbers as the call number. Each title is considered a discrete bibliographic item and is so counted. Physically, an item may constitute one or more reels; or conversely, several items may be on a single reel. The sequence of individual items on the master negative reel is indicated by a number following a dash. Thus, MN 1213-5 indicates that a given title is the fifth item on master negative reel number 1213. I wanted to be able to inventory the number of microform titles easily, since more and more surveys seemed to be on the way; and in consultation with the Butler Library Cataloging Department, we established a new code for East Asian films that followed the enumeration practice of the Main Library. We used "EcF" for monographs, and "EcFN" for serials. The "E" stands of East Asian; "c" for Chinese; and "F" for microfilm. "N" denotes a serial. Later, we added EcFX and EcFNF for microfiche. The second element can represent Section or language. We use it for language. "j" stands for Japanese; "k" for Korean; "ma" for Manchu; and "mo" for Mongol. Microfilms of western language materials are cataloged by the Main Library, and "F" and "FN" only are used. The first shelf-list cards are numbered EcF 1 and EcFN 1; the latest numbers at present are EcF 6040 and EcFN 1025. The shelf-list includes microfilms filmed at Columbia University as well as positive prints acquired from other sources.

Chinese microfilms produced by Columbia University are reported in the form of finished catalog cards to the National Union Catalog (NUC), to the National Register of Microform Masters (NRMN), to the Association of Research Libraries, Center for Chinese Research Materials (ARL, CCRM), and to the Research Libraries Group's Bibliographic Center [until 1980], and copies are provided for the Master Negative Catalog in the Columbia Libraries' Preservation Department. Until recently, copies of cards were also sent to the Library of Congress Chinese Cooperative Catalog (CCC). As the East Asian Library has begun entering its newly cataloged records directly on-line for RLIN, I expect that reporting by hard-copy catalog cards by mail is now, or may soon be, a thing of the past.

In our filming, we focused primarily on monographs, although we did film serial issues that were in imminent danger of being lost through deterioration, and when orders were received from individuals or other institutions, domestic or foreign. The problem of serial consolidation has been discussed a number of times formally and informally as a matter for broad national cooperation. Although important work in locating missing issues and filming complete serial runs has been carried out by individual institutions, including the Library of Congress and the Center for Chinese Research Materials, no continuing program of national cooperation has been organized. For this reason, our segregated "Brittle Book Collection" has many, many shelves of untreated serials waiting disposition.
VI. Product

Preservation activities of the EAL have followed several lines. The one I have described is the intensive activity of the Chinese Section, supported by a grant. One must not overlook the continual ongoing work in the Reprography Section of the Preservation Department, which supplies copies of items that are often unique at Columbia, and are wanted by individuals and other institutions. Some 300 master negative reels of Chinese items, produced prior to 1975, were identified in the reorganization of the microfilm collection in 1976. These reels, consisting of local histories, Chinese genealogies, books published by the Communists on the Chinese mainland (having to do with military operations, land reform, education, biography, and narrative accounts of the resistance), periodicals, and newspapers, were turned over to Reprography for storage. The production of microfilms resulting from external orders is going on all over America. The sum of this activity is a continuous, substantial preservation effort in many institutions, on account of which the National Register of Microform Masters came into being. Two recent examples filmed at Columbia are outstanding because of their rarity and large size:

Ta Ch'ing hui tien, 1732 edition (Yung-cheng): 250 chüan: 100 v.
in 16 cases: 9 reels: Master Negative numbers 3150-3158.

Ta Ch'ing hui tien, 1764 edition (Ch'ien-lung): 100 chüan: Tse-li:
180 chüan; 120 v in 24 cases: 9 reels: Master Negative Numbers
2600-2608.

The G. K. Hall catalogs suggest that only the Berkeley and Columbia Libraries have original copies of these two editions, although it is probable that the Library of Congress and the Harvard-Yenching Libraries also have them. In any case, the text in microfilm copy is readily available from Columbia, where the items were filmed at the behest of another institution.

Another productive avenue was the project of the Genealogical Society of Utah. Their Project number 197, conducted in 1976-77, was essentially to acquire copies of Columbia's genealogical materials. But it served also for the preservation and propagation of the texts, and produced 859 reels containing 987,429 frames, including genealogies, local histories, civil service examination records of the Ch'ing dynasty, and 900 volumes of the quarterly published in Peking from 1803 to 1911, the Ta Ch'ing chin shen ch'uan shu 大清 應 常 金 書 [Directories of Official Appointments]. Incidentally, in a recent letter, dated 9/08/82, Mr. Wayne Metcalfe, Manager of the Asia/Pacific Genealogical Services Division of the GSU, advises that a catalog of the Chinese Genealogies held by the Society will be published by the Ch'eng Wen Publishing Company in Taipei toward the end of this year.

Another modest stream of Columbia Chinese materials was sent to the Center for Chinese Research Materials for preservation and publication. I am pleased to state that whenever possible the Columbia University Chinese Section cooperated with and appreciated the work that the CCRM accomplished. We have been able to replace many brittle items with their publications.
VIII. Staffing

Staffing of the two projects consisted chiefly of a full-time camera operator and a bibliographic assistant. In addition, approximately 1,000 hours a year of student general assistance was required; this averaged twenty-odd hours a week over eleven months. All staff needed to know Chinese and to have a good, clear hand for writing Chinese characters. Training in romanization and in the bibliographic procedures was given in the EAL and training in photographic procedures was provided by Reprography. Both FTE's (Full Time Employees) received identical training simultaneously, and each could assume, or assist in, the duties of the other when a bottleneck developed or when one member was on leave. Also, as happened several times, continuity was maintained even if one member resigned and a replacement had to be trained. A variable amount of time was dedicated by regular support and professional staff to initial training and to continuous supervision of the project. Regular staff participation was at least equivalent in cost to the cost of the two FTE's supplied by the grant.

VIII. Format

The question has been asked why microfilm was preferred to microfiche. At the time of the two projects, only the equipment to film and to process reels was at hand and fiche equipment was not then available. Columbia now has the camera facility to carry out preservation by fiche and is, in fact, using fiche for certain materials. The Preservation Department advises, however, that the lower reduction possible with microfilm provides a preferred image and more compact storage. Microfilm is also cheaper and less labor intensive, particularly when a great volume of text is involved. There is no quantitative difference in the physical life of either format and, under recommended storage conditions, the shelf life of both is considered to be indefinite. Archival negatives of Columbia University are stored at Iron Mountain, near Albany, New York, and a printing master negative is kept at the University to generate needed prints.

IX. Conclusion

The East Asian Library at Columbia University has completed two preservation projects. Nearly 1,000,000 pages in 270 reels of archival-quality negative film have been produced, preserving 2,178 titles. In addition, three quarters of a million pages have been sequestered in a Brittle Book Collection. These titles will have to be checked and evaluated. Many will prove to be disposable or replaceable by existing microforms and reprints, but there is a considerable measure of valuable material to be preserved. The overall process is expensive. Projects are usually financed by matching grants, in which half of the cost is borne by the institution, or, in the case of outside orders, passed along to the customer. It takes about three sales of an ordered item to recover the costs. As an appendix to this article, I present a flowchart indicating the sequence of the procedures we have developed at Columbia for preserving our holdings in East Asian languages.
We must also take into consideration what is being done abroad. Various academic, commercial, and even governmental agencies in the Republic of China, in the PRC, and in Japan are entering the preservation area. Utilizing their products will help to spread the cost of preservation. In the Republic of China, Transmission's Microforms Co., Ltd., has issued a catalog and solicits orders of titles for filming. The National Central Library in Taipei has been conducting an extensive program of microfilming its rare books. In the PRC the China National Microforms Import and Export Corporation has issued a catalog of the items which it has filmed. In Japan the work of the National Diet Library and of Yushodo has been outstanding. The preservation of Chinese materials—and, indeed, of all East Asian materials—has reached a point where it is no longer a prerogative or a responsibility of the West alone. The question of avoidance of duplication of effort is raised again, but in an international context.

We must consider how to correlate our American preservation programs with those of agencies and institutions in the Far East that are developing and strengthening their own. Is the quality of microform produced in the Far East of an acceptable standard? Are there materials of a sensitive nature which, for one reason or another, would be excluded? Can cooperative programs of serial consolidation and reproduction be established? Will American technical developments, such as digitized optical storage introduce problems of technical incompatibility or obsolescence? These questions and others will all have to be answered in good time.

By way of historical summary, let me divide Columbia's preservation of East Asian publications into three periods: (1) The pre-1958 years to some point in the 1970s; (2) the 1970s; and (3) the future.

(1) The first period is characterized by the acquisition of many books that have now become brittle; by cataloging records that are inadequate by current standards; and by microfilming that also has technical deficiencies. Another characteristic is that access information for materials during this period is generally available only in local records.

(2) The second period, from the 1970s to the present, represents a considerable advance. Standards of cataloging, reprographic facilities, reporting through the use of manually produced catalog cards to LC and other agencies, with resulting increased exchange of information, all improved. This period is also characterized by matching grants or grants-in-aid to improve cataloging and preservation work. A heightened awareness of the need for preservation activities is a further and significant phenomenon.

(3) Now we are at the beginning of the third period, the future. Whereas all of us understand the character of the two previous periods, the content and direction of the future is not so clear. The library environment has changed and the glimpses that we get from the fast-speed-forward media can only be described in euphoric Hollywood adjectives. Riding the new technology gives one something of the feeling of boarding a bus without a route map. Is it going toward preservation?
It appears that it is indeed! On March 7, 1983, implementation of the RLIN Preservation Enhancement became operational on-line, using the 007 field. Records for microfilms can be entered utilizing appropriate standards of description that identify items as master negatives, service copies, film, fiche, etc. Hard copy items can be entered also with indication of decisions to film, using the new "Queue Date" Field. This means that LC and RLG members can search for MN and titles that are scheduled for filming. Thus the potential for creating a preservation plan is technically at hand, and the manual file, in the context of a national list, is no longer a viable investment.

Prognosticators advise us that within 20 years we can anticipate that from 50 to 90 percent of all books published between 1850 and 1950 will be unusable. That is a tidal wave that will require the utmost cooperation if we are to avoid such a loss. What do we need as a preservation agenda, with particular focus on East Asian books? First, I believe, a policy that ideally will describe the kinds of books and non-book materials that we are prepared to treat, and those that we are not prepared to treat; second, a description of the kinds and degrees of deterioration, so that we can recognize and identify such items symptomatically; and third, an inventory of the kinds of treatment that are recommended and an indication of alternatives where there are options. In addition to the description and diagnosis, the policy statement could also provide a set of criteria and of priorities so that we would have a firm, common basis for evaluation.

The summary minutes of the meeting of the RLG Preservation Committee, which met at NYPL on October 15-16, 1981, contained a brief mention by Philip Cronenwett, one of the members, reporting on Dartmouth University's study, which devoted over 2,200 hours to an overview, a survey, and the writing of a set of preservation recommendations. This is equivalent to 40 hours a week, for 55 weeks, over a year's FTE. On reflection, some tens of thousands of hours, adding up to years of labor, collectively, must have been spent by staff members of many institutions for the purpose of developing preservation policy, guidelines, and procedures within the past few years. Some of these papers have been reproduced by the Association of Research Libraries, Office of Management Studies, Systems and Procedures Exchange Center in kits. Particularly useful reading are Kit number 35: Preservation of Library Materials (1977); and Kit number 66: Planning for Preservation (1980).

We have, then, the technology to carry out a program and we have a basic structure of policy and guidelines, embodied in the work performed by the committees of institutions that have focused on the problems of preservation. We do not have to re-invent the wheel. We can adapt these tools to the specific requirements of East Asian materials and quite possibly find answers to questions that we do not yet have, but will encounter in the future. As area specialists we will have to answer some ourselves. For example, what is the minimal degree of deterioration, and what is the minimal number of copies of a title within the country at which a book becomes a candidate for preservation? Is it useful to code the condition of candidate titles so that a decision can be made as to which copy to film? One could suggest, for example, that several existing copies could be evaluated by some coding system, such as 1, 2, 3, 4 or A, B, C, D. The first might represent a perfect and complete copy, with an indefinitely viable shelf...
life. The second might represent a copy which is intact but brittle. The third could represent advanced deterioration; and the fourth could mean unfit for preservation, incomplete, or not suitable for some other reason.

I would like to see CEAL establish a Preservation Subcommittee that would develop a policy for the preservation of East Asian materials; such a policy would incorporate guidelines, criteria, priorities, and recommendations. This policy should be consistent with those generally held by libraries and library networks, and should facilitate a common strategy and plan of treatment.

Collections that at present do not participate in a network, that do not have the technology, nor access to it, may be able to devise a regional system which will enable them to transmit and receive information. Or they may wish to work through a central agency, such as the ARL-CCRM—the feasibility of which I believe Dr. Eugene Wu is going to explore. I am certainly ready to agree that we shall need any help we can get. The CCRM can increase its effectiveness by broadening its mission to include preservation, particularly in the matter of topical focus and in the selection of serials and continuations. The sheer volume of monographs that need to be treated may very likely require that each of us must do a share.

(Editor's note: The entire East Asian library community should be grateful to the Columbia University East Asian Library—and to Mr. Jacoby in particular—for the meticulous manner in which this preservation project has been conducted, and for the very detailed description which he has given us. I should like to add two points:

1. The East Asian Library at Columbia has been giving full cataloging (i.e., not minimal temporary entries) to the microfilms which have been produced under its preservation program. Mr. Jacoby has sent me several specimens of this cataloging, and I reproduce two of these here as Appendix B (for a microfilmed monograph) and Appendix C (for a microfilmed serial).

2. Mr. Jacoby informs me that after each negative film is produced it is carefully proofread for density, focus, missing pages, etc. before any positive copies are produced from it. This work is performed by two Chinese employees of the office of Photographic Services, known as Repography. This careful proofreading of the negative film assures that film of "archival quality" is produced.)

**Project Execution.**
- Survey and collection of fragile books from the stacks
- Card withdrawal from Catalog & jacketing of title card
- Treatment holding shelves.

**Evaluation.**
- Weeding: Out-of-scope items (unwanted)
- Discrimination of treatment:
  - Repair or rebind.
  - Recover and/or recase.
  - Retain original hard copy or discard after filming.
  - Wrap, box, or encapsulate.
- Withdraw cards.
- Statistical File of withdrawn vol.

Target preparation:
  - Spine shear. (Expendable copy)
  - Filming.
  - Film Log Entry.
  - Develop.
  - Proof-read Master Negative.
  - Densitometry reading.
  - Service copy production.
  - MN Catalog

**Search: Other editions.**
  - Reprints.
  - Microforms.

Decision to microfilm.
- Catalog: Pre-filming or Post-filming.

**Holding shelves:**
  - Unfilmed items to be cataloged
  - Filmed items to be cataloged

Delivery.
- Card Production & Processing.
- Card Filing in Catalog and Distribution.
- Service Copy.
- Card reporting to Agencies.
- Mark Microfilm lead
- Label Microfilm box.
- Shelve.
Appendix B: Columbia University Catalog Card for Microfilmed Chinese Monograph

Wang, Shu-pi, ed. (Ku chin ko yen ta ch'Uan) ... 1937. (Card 2)

Master negative 3043-8 (192 fr.)

Appendix C: Columbia University Catalog Card for Microfilmed Chinese Serial

(Specific Issues Held are Listed on a Separate Holdings Card)

(Chiu wang jih pao)
Microfilm EcFN 287
Aug. 24-Nov. 17, 1937.
Publication place varies: Nanjing. Jan. 1938-

(Continued on next card)

Microfilm EcFN 287
(Chiu wang jih pao)...
Master negative 1434
--Newspapers, Chinese. 2. Chinese newspapers in microform.