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# Três Grandes Bibliotecas Activas em Preservação e Conservação

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**P**ROBLEMAS em matéria de Preservação e Conservação (P&C) são comuns a todas as bibliotecas. Aquilo que os torna diferentes entre si é o grau de deterioração que se possa verificar, ou a preocupação que eventualmente provocam.

Ter uma ideia do esforço em marcha na Bibliothèque Nationale, Paris, na British Library, Londres ou na Library of Congress, Washington DC, constitui apenas um incentivo à recolha de mais informação sobre os respectivos programas em curso.

Não foi meu objectivo reunir textos que descrevessem pormenorizadamente as várias actividades em curso. Pelo contrário, se, por um lado, estou consciente dos limites da informação hoje compilada, por outro, estou convencida que estes extractos podem servir para alertar

muitos profissionais menos atentos para estas questões ao mesmo tempo que funcionarão como «aperitivo» para outros colegas já mais sensibilizados.

Para uns e para outros, a extensão dos serviços que se prestam, a variedade e complexidade das tarefas, não deixarão certamente de levantar dúvidas, senão perplexidades sobre o muito a empreender entre nós. Eis, pois, três testemunhos.

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BIBLIOTHÈQUE NATIONALE  
Paris<sup>1</sup>

## Conservation

Les problèmes qui concernent la maintenance des collections gérées par le service de la Conservation et

de la Restauration constituent une préoccupation majeure de la Bibliothèque Nationale puisque une de ses missions fondamentales est d'assurer la conservation indéfinie des documents qu'elle reçoit. Les moyens utilisés sont le conditionnement, la restauration et la reproduction.

### *Conditionnement*

La reliure constitue un mode de protection efficace. La Bibliothèque Nationale doit accorder à cet aspect de la maintenance une attention d'autant plus poussée que la majorité des livres français sont présentés brochés. La reliure courante est confiée à des relieurs du secteur privé. Par ailleurs des conditionnements adaptés à chaque type de document sont utilisés: montage dans les albums des gravures protégés par des caches après gommage et lavage, encapsulage en polyester des affiches et grandes cartes géographiques, entoilage des cartes et des affiches, cartonnages.

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### *Restauration*

La restauration des documents est une activité remarquable de la Bib-

liothèque Nationale qui occupe quatre-vingt-dix relieurs et restaurateurs. Chaque département de conservation possède son atelier de restauration pour traiter les documents uniques et du plus haut intérêt. Si l'atelier central travaille d'abord pour les collections de la Bibliothèque Nationale, il prend aussi en charge des documents précieux appartenant à d'autres bibliothèques et institutions.

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La nécessité de traiter rapidement plusieurs centaines de milliers de volumes condamnés à disparaître en raison de la fragilité de leurs supports et de leurs reliures a entraîné l'élaboration d'un plan ayant pour objectif la sauvegarde des textes et des documents eux-mêmes. Il a abouti à l'ouverture en 1980 du centre Joël Le Theule pour la conservation et la communication des documents imprimés et manuscrits installé dans le château de Sablé-sur-Sarthe. Le même souci de conservation pour les périodiques a conduit à la création en 1981 du Centre André François-Poncet qui occupe les locaux de l'ancien couvent des Cordelières à Provins et a pour vocation la conservation de la presse quotidienne et régionale par restauration, reproduction et stockage.

Le sauvetage des livres commence par la préservation des textes pour qu'ils continuent d'être connus et consultés: ils sont photographiés à un rapport de réduction élevé. Puis sans aucune gêne pour les éventuels lecteurs, on procède au traitement et au renforcement des papiers en neutralisant l'acidité qui les ronge. Après quoi on peut redonner au papier devenu cassant une résistance mécanique en le doublant à l'aide d'un matériau neutre transparent par thermocollage. Les principes fondamentaux observés en matière de restauration sont la connaissance de la composition chimique précise des produits employés (colles, cires, papiers), l'application de traitements réversibles, le respect des techniques anciennes et du document, qu'il soit illustre ou modeste.

**La reproduction photographique des collections est la garantie à long terme d'une bonne politique de sauvegarde.**

Dans le cadre de la recherche sur la conservation des documents graphiques, a été mise au point une cire de différentes couleurs qui permet de traiter préventivement toutes les reliures en peau ainsi que les objets en cuir en s'opposant à leur dessèchement trop intense et en les protégeant des champignons et des insectes. Dans ce domaine s'instaure une concertation suivie avec les

grandes bibliothèques nationales étrangères.

### *Reproduction*

La reproduction photographique des collections est la garantie à long terme d'une bonne politique de sauvegarde. De nombreux documents ne peuvent plus être communiqués directement soit parce qu'ils sont déjà abîmés et que de nouvelles

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communications achèveraient de les détruire, soit parce qu'ils sont si précieux qu'il faut les préserver de la détérioration qu'entraîneraient inévitablement des consultations répétées. Le développement de la recherche en sciences humaines a multiplié au cours de ces dernières années les demandes de documents uniques ou très rares. Ceux-ci sont donc communiqués sous forme de reproductions photographiques, notamment de microformes. Le microfilmage systématique ou sélectif des documents suivant un programme en vue de la conservation alimente la microfilmothèque de sécurité. Ces documents, mis ainsi à l'abri de la consultation courante, restent accessibles aux

chercheurs qui ont réellement besoin de les examiner. Le but poursuivit est d'assurer la maintenance la plus longue possible du patrimoine dont la Bibliothèque Nationale a la garde.



### THE BRITISH LIBRARY Londres<sup>2</sup>

#### Preservation

The size of the British Library's collections and the diversity of the materials they contain present problems not only of scale but of complexity, and the Preservation Service, established as a separate department in 1983, is responsible for the largest library preservation initiative in the world. The librarian today must reconcile two conflicting responsibilities: providing access to collections indispensable for research, and ensuring their preservation for future generations. As the volume of material at risk inexorably increases, and the number of users requiring access similarly increases, the custodians of research collections face difficulties for which there are no historical precedents.

Preservation problems arise from both intrinsic and external factors. Excessive use, careless handling and poor storage conditions all play a part in hastening decay, but the most important and least visible enemy of a book or document lies within its

covers. Paradoxically, older books and manuscripts on paper made from rags are in very good condition; more modern books, particularly from the period 1860-1900, are crumbling to dust because of the chemical instability of their wood-pulp paper. Of the millions of items in the British Library's collections twenty-five per cent of the pre-1850 books and sixteen per cent of the post-1850 books need conservation treatment, largely due to paper-embrittlement. Each year more books become endangered; inevitably some will not be rescued in time.

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The Preservation Service is responsible for the overall direction of conservation and preservation services throughout the Library. Conservation and repair work is carried out by the Library's own specialised and highly-skilled staff, at the London-based conservation bindery (one of the largest in the world), conservation studios for Manuscripts, Oriental Collections and the India Office Library and Records, the National Sound Archive, and a repair unit at the Document Supply Centre at Boston Spa. Outside contractors are also

used to deal with backlogs of books which require treatment.

One very important initiative concerns detailed planning in the event of disaster from fire and/or flooding. Preparation and training are vital in ensuring a speedy response in the event of a disaster, so that staff can be deployed effectively and losses minimised. A near-disaster occurred at the Document Supply Centre in December 1987, when a burst pipe caused flooding which damaged over 10,000 Russian books. A salvage programme was quickly effected and various techniques (including blast-freezing and vacuum freeze-drying) succeeded in rescuing almost all the damaged books.

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The Preservation Service supports research into technical conservation problems and treatments, and recent projects have studied the cause of foxing in paper; the use of aluminium salts on bookbinding leathers; the potential use of gamma irradiation to kill fungi; and the problems of removal and reversibility of adhesives. Investigations at the University

of Surrey into paper strengthening and de-acidification by a graft copolymerisation technique have proved successful, and the process is now being adapted for bulk processing of brittle books. Other research has taken the Library into the forefront of new technology, with the development of two new methods of conservation copying: the overhead photocopier, and the electroluminescent copier. With this equipment almost any book, however fragile, can be copied — without damage — for readers.

### Collections of photographs

The British Library possesses outstanding collections of photographs. Those in the India Office Library and Records amount to some 200,000. There are many thousands of prints reflecting the work of the early pioneers incorporated in printed books alongside text. The Library possess a collection of some 3,000 early Canadian photographs, many of which are known to be unique. From the beginnings of photography, the striving for image permanence has been the quest of many distinguished photographers. However, the methods of making and developing negatives and positives were often experimental in the early years of the science and did not meet with uniform success. Fading of images has remained a constant problem resulting in very

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significant conservation problems today. Additionally, poor quality paper and backing materials have contributed to the deterioration of images. A start has been made on a photographic conservation programme in the India Office Library and Records, but it is not possible to conserve more than a few hundred images each year owing to the pressure of other priorities for conservation staff. The greatest possible care is taken to preserve the integrity of the original image, and to retain the sequence in which photographs are grouped together, often in photograph albums.

### **Deacidification of paper**

The durability of paper is often taken for granted. However, it ages like all other objects. The fibres of paper contain a certain proportion of water, and this reacts over time adversely with atmospheric pollutants such as sulphur and nitrogen to break down the fibres. The problem of aging has been added to on a world wide scale with the production of poor quality papers, often

derived from wood. Current conservation techniques can greatly extend the life of certain papers with the use of deacidification. To accomplish this is a time consuming process. Books have to be taken apart and each leaf placed in a specially prepared solution. The paper receives additional protection against further ageing by acids. Each leaf of the book is dried and the leaves are placed back together again in their original sequence. Many thousands of leaves printed and manuscript, are further supported by the attachment of very thin transparent tissue to hold tears in the paper torn away replacement paper is attached to the torn leaf.

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This calls for skill in the matching and attachment of the torn edge with the new portion of paper, with the aim of making the attachment as unobtrusive as possible. For many thousands of leaves more, it is necessary after deacidification to support the whole leaf to permit future use. This is done by placing thin sheets of transparent tissue, coated on one side with adhesive, onto the original sheet and then fixing the tissue to the sheet with dry heat. Printed books and manuscripts have to be re sewn and a

new binding made to protect the repaired text. Older printed books and manuscripts have their section sewn back together again with the sewing being woven around cords. The cords then are attached to boards which protect the text. The Library is developing a large scale programme of deacidification and paper strengthening. Whole books will be treated simultaneously without taking the books to pieces. The paper fibres will be coated with polymer after treatment, allowing use for far longer than would otherwise be the case.

The dilemma created by the need to preserve original documents and books while satisfying the needs of users is most easily resolved by the provision of substitute copies. Preservation microfilming in the Library has been undertaken on an unprecedented scale, and many collections now must be consulted only on this medium, though access to originals can sometimes be granted by special arrangement.

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Digital storage of source material, both for documents and recordings,

holds the promise of economy and rapid access, and the newly installed Neve Desk at the National Sound Archive is the world's first digital signal processing unit developed for archival purposes. Capable of handling both analogue and digital input, it enables the Archive to transfer recordings to a digital medium on which signal deterioration will not occur. The conversion of documents, printed and manuscript, to digital storage may replace microfilm as a medium for the preservation of materials which continued use will inevitably destroy.

The Preservation Service encompasses a wide range of activities united by a single aim: ensuring the survival of a documentary heritage which is the envy of the world. The issues are complex, and resources, financial and human, are inadequate.

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In addition to the primary responsibility for preserving the collections the Library established in 1985 the National Preservation Office, which plays an important role in assisting other libraries with their preservation problems as well as publishing information on new techniques to

deal with the deterioration of paper and book materials.

Trusteeship of the past is an onerous responsibility, and meeting the challenge requires imaginative thinking, a sound understanding of the needs of those engaged upon research into the past, and not a little courage.



THE LIBRARY OF CONGRESS,  
Washington DC<sup>3</sup>

### **Preservation — the race against desintegration**

Once any item is selected for the collections, the Library promises to preserve it, care for it, essentially forever. The curse is that from the moment the Library receives it, it is trying to deteriorate to dust. The paper is becoming brittle, turning brown, and disintegrating. The movie films are getting hard, the emulsion is separating from the backing, the color dyes are fading. The ink on the manuscripts is getting dim, the microfilm is getting spots,

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binding thread is rotting, covers are splitting off. The race, therefore, becomes one of retarding where you can and transferring to better material when you must.

Preservation starts right in the processing cycle. One-half of all the printed items the Library receives are unbound, so they must be sent out of contractors to be bound in order to protect them from use and to keep their parts together as they age. Newspapers, which become brittle in months, not years, are immediately microfilmed in the Library's photoduplication laboratories, and the papers themselves are

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discarded. Motion pictures are rushed straight into the Library's refrigerated vaults and kept for their lifetime only a few degrees above freezing. Manuscripts are put in fumigating vaults and gassed to kill any present or future mold or insects. Once removed and rehumidified, they are then placed in non-acidic, metal-edged boxes, and stored on their sides in the Manuscript Division. Phonograph records are stored vertically, deliberately packed together so they constitute a block of vinyl three feet long to prevent warping. Maps are encased in polyester envelopes, as are theatrical posters and billboard sheets. Da-



guerreotypes are put between squares of glass, and photographs are put in protective sleeves.

But acid is the enemy. For the first thousand years, paper was made of rags, and this paper has held up remarkably well. It is still flexible, reasonably white, and holding together. (Although, just in the last two decades traffic fumes and institutional heating have started to penetrate the pages and when added to the moisture supplied by air conditioning, the antebellum books are filling with sulphuric acid and developing problems.) After 1860, however, mass publishing exceeded the supply of rags, and the papermakers turned to wood for the fiber they needed. Wood is made of cellulose held together with lignin. When wood pulp is exposed to light the lignin turns brown and the paper loses its strength. The papermakers add chemicals to get the lignin out and alum to improve the printing surface — thereby generating more acids which make the paper weak and brittle.

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These processes are creating nightmares in all the great libraries of the world. Books barely fifty years old are splintering are cracking and

their pages are dropping out in minute flakes. The Library of Congress has been racing against this destruction for thirty years now, and over seven million pages are microfilmed each year, one page at a time, trying to capture the text before it is lost.

The Library's chemists, who have been searching for a method of preventing the damage before it starts, have recently devised this valuable technique: acidic, wood pulp books are placed in huge, space age vacuum tanks where they are flooded with diethyl zinc gas, thus deacidifying them for at least another hundred years. The Library is now constructing a plant capable of stabilizing 500,000 volumes a year in this manner.

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It may yet prove that the computer is the ultimate savior. The theory behind the entertainment videodisc — laser scanners and digital blips — may be the solution. If books can be scanned and stored digitally on optical disks (as they are in small detail via videodisc and videotape), not only will the preservation problem be resolved, but the great *bulk*, the *mass* of library storage will be compressed. The device will tie the

reader to a television tube or a printer, but the contents of the original piece — be it a color film motion picture, a medieval manuscript, or a handwritten operatic score — will at least be *somewhere*. In our present mode, paper-supported scientific data are turning to flakes faster than the library world at large can save them. The Library's preservationists think they see the first firm light at the end of a tunnel that has worried the profession for a century.

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Such preservation, of course, does indeed relate to mass data and its target is books by the thousands. The Library's preservation unit also deals in single items — rare incunabula, individual vellum sheets, and one-of-a-kind Civil War photographs. These are lovingly repaired with infinite care, as precious artifacts. As the rows of antique bindings are carefully oiled, the preservationists are acutely aware of their responsibility to scholars generations into the future.

### Notas

<sup>1</sup> *La Bibliothèque Nationale*. Paris: BN, 1988, p. 34-36.

<sup>2</sup> *The British Library: past, present, future*. London: BL, 1989, p. 56-59.

<sup>3</sup> *Guide to the Library of Congress*. Washington DC: LC, 1985, p. 65-67.

