International Preservation News

A Newsletter of the IFLA Core Programme on Preservation and Conservation

IFLA PAC

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International Preservation News is a publication of the International Federation of Library Associations and Institutions (IFLA) Core Programme on Preservation and Conservation (PAC) that reports on the preservation activities and events that support efforts to preserve materials in the world's libraries and archives.

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Many of you have wondered why you had not yet received IPN No. 22 last August. The first reason is that our office moved in the new premises of the Bibliothèque nationale de France (BnF) in May. Then the whole PAC team was busy preparing the Symposium on "Managing the Preservation of Periodicals and Newspapers" which we organised in cooperation with our colleagues from the BnF last August.

Then, last October the BnF was closed down due to a fire that had broken out outside. Fortunately no real damage occurred to the library itself but we had no electric power, no internet and e-mail connection and no air-conditioning. We were forbidden to enter the building for four weeks. We apologize for this delay and are happy to offer you a double August-December issue.

Hosted by the BnF in Paris and chaired by IFLA-PAC, the Symposium on "Managing the Preservation of Periodicals and Newspapers" gathered 180 participants from 40 countries. Three days of intensive work allowed us to survey the accomplishments done since the previous meeting in Washington in 1989. Among the greatest changes let's mention a growing interest in digitisation programmes, although these should not be considered the key for preservation but rather an advantageous means of access. Microfilming obviously remains the favourite and safest reformatting process.

Preservation and reformatting programmes have been set up almost everywhere in the world but in Africa. This is the reason why I suggested that, before any further step, an inventory of existing national newspapers collections be done by each national archive and library institution in Africa. A questionnaire will be sent shortly. The goal is to fill the gaps within their collections with surrogates from western libraries. This project cannot be implemented and completed without the thorough involvement of all JICPA (Joint IFLA/ICA Committee for Preservation in Africa) members which I thank here in advance for their commitment.

I attended two major conferences that took place in Latin America lately: "Memory of the World" in Mexico and ABINIA in Cuba. It was decided to strengthen PAC visibility in the region by first launching a survey on the preservation conditions of heritage collections held by the national libraries and their potential resources, such as staff and equipment. The answers will be analysed and will allow us to establish priorities and elaborate an efficient action plan.

Marie-Thérèse Varlamoff

Photo : Sylvie Escaon

Vous avez été nombreux à vous demander pourquoi le numéro d'août d'IPN n'était pas paru. La raison première fut le déménagement de nos bureaux sur le nouveau site de la Bibliothèque nationale de France (BnF) à Tolbiac. Ensuite, l'énergie de notre équipe s'est concentrée sur la préparation du Symposium sur la gestion de la conservation des périodiques et de la presse que nous avons organisé en coopération avec nos collègues de la BnF en août dernier.

Enfin, ce qui n'aurait dû être qu'un léger retard de parution s'est transformé en annulation pure et simple d'un numéro en raison de la fermeture du site de Tolbiac durant tout le mois d'octobre. Cette fermeture nous a été imposée suite à un incendie grave survenu aux abords immédiats de la bibliothèque qui a nécessité d'importants travaux de réparation des circuits électriques, informatiques ainsi que du système d'air conditionné. C'est donc un numéro double que nous vous proposons aujourd'hui.

Organisé à la BnF et présidé par IFLA-PAC en août dernier, le Symposium "Gérer la conservation des périodiques et de la presse" a rassemblé 180 participants venant de 40 pays. Trois jours de travail intensif ont permis de constater les progrès faits depuis le précédent symposium de Washington en 1989. Parmi les changements importants notons l'intérêt croissant pour les programmes de numérisation, qu'il ne faut pourtant pas considérer comme une panacée pour la conservation mais davantage comme une meilleure possibilité d'accès. Le microfilm demeure le mode de transfert le plus utilisé et le plus sûr.

Des programmes de conservation et de reproduction ont surgi pratiquement partout dans le monde sauf en Afrique. C'est pourquoi j'ai suggéré que, préalablement à toute initiative, on établisse un inventaire des collections de quotidiens conservées dans chaque institution d'archives ou bibliothèque nationale d'Afrique par le biais d'un questionnaire qui leur sera envoyé prochainement. Notre objectif est d'essayer de combler les lacunes de ces collections avec des copies fournies par les bibliothèques européennes. Ce projet ne peut démarrer et être mené à bien sans l'adhésion de tous les membres du JICPA (Comité Mixte IFLA/ICA pour la Préservation en Afrique) que je remercie à l'avance.

J'ai participé dernièrement à deux importantes conférences en Amérique latine : "Mémoire du Monde" au Mexique et ABINIA à Cuba. Nous avons décidé de renforcer la présence du programme PAC dans la région. Dans un premier temps, nous allons mener une enquête sur les conditions de conservation des collections patrimoniales des bibliothèques nationales et leurs ressources en personnel et en équipement. L'analyse des résultats devrait permettre de dégager les priorités en matière de conservation et d'élaborer un plan d'action efficace.

Marie-Thérèse Varlamoff

Architecture et préservation : même combat

Avertissement

Les rapports entre architecture et conservation paraissent évidents aux spécialistes de la conservation ; ils ne le sont pas toujours pour les décideurs (administrateurs et politiciens) ni pour les architectes. L'histoire de la construction de nombreux dépôts d'archives et magasins de bibliothèques nous montre que les mesures spécifiques liées à leur fonction se sont très souvent limitées au calcul d'une charge correcte pour les dalles, et que des facteurs de conservation aussi importants que le climat et la lumière ont été considérés comme secondaires par rapport à l'aspect extérieur de la construction, ou simplement en fonction de critères d'épargne.

La fonctionnalité d'un bâtiment pour la conservation de livres et documents est profondément influencée par des facteurs tels que le choix du site, la structure et les matériaux utilisés pour la construction, la quantité d'ouvertures dans les façades, etc. La relation entre les facteurs de conservation et les éléments architecturaux mérite d'être mise en évidence, pour faciliter le travail de conception et la communication, aussi bien du côté des architectes que de celui de leurs mandataires.

Les thèmes traités ont été élaborés en vue de projets de constructions ou de concours d'architecture pour bibliothèques et archives, où la conservation à long terme fait partie des priorités. Le travail créatif de l'architecte[1] doit être guidé par l'expression claire des exigences techniques pour que la construction puisse répondre aux exigences spécifiques de l'institution. Les exigences techniques et fonctionnelles devraient donc être exprimées au plus tôt.

L'argument traité forme un ensemble dont les composantes sont reliées de différentes manières : j'ai renoncé à répéter des concepts qui concernent plusieurs aspects traités, en considérant que ce texte sera lu in extenso.

J'ai également renoncé à développer les arguments qui soutiennent mes opinions sur divers thèmes, en premier lieu pour limiter l'ampleur de cet article. La norme ISO/DIS 11799 "Information and documentation – Document storage requirements" résume les aspects essentiels de ce thème et correspond en général aux indications que j'ai données.

1 Ces arguments, ainsi que beaucoup d'autres qui ne sont pas traités dans cet article, sont dans : A, Giovannini. De tutela librorum. La conservation des documents d'archives. Die Erhaltun von Büchern und Archivalien. Deuxième édition revue et augmentée. Genève : Editions IES, 1999 (édition bilingue en français et en allemand).

Architecture and Preservation : Fighting the Same Battle

Foreword

The relationship between architecture and preservation seems obvious to preservation specialists; but this is not always the case for decision-makers (administrators and politicians) or for architects. The history of the construction of numerous archive depositories and library book storage buildings shows us that the design features specific to the function of these buildings have very often been limited to calculation of the correct floor loading, and that preservation factors as important as climate and light have been considered less important than the external appearance of the building or even the need to reduce costs.

A building's functionality for the preservation of books and documents is profoundly influenced by such factors as: the choice of site, the structure and materials used for the construction, the number of openings in the frontages, etc. The relationship between preservation factors and architectural elements needs to be brought out, to facilitate the design work and communication both on the part of architects and of those who commission their buildings.

The themes dealt with here have been developed for the purposes of construction projects or architectural competitions for library and archive buildings where long-term preservation is one of the priorities. The creative work of the architect[1] must be guided by a clear expression of the technical requirements in order for construction to meet the specific requirements of the institution. The technical and functional specifications should therefore be made clear as soon as possible.

The case presented here forms a whole, of which the component parts are linked in different ways: I have not repeated concepts which concern several of the aspects discussed, considering that this text will be read in extenso.

I have also not developed the arguments which support my opinions on various themes, primarily in order to limit the extent of this article The ISO standard ISO/DIS 11799 "Information and documentation - Document storage requirements" summarises the essential features of this theme and generally matches the indications I have given.

1 These arguments, along with many others not dealt with in this article, can be found in: A, Giovannini. De tutela librorum. La conservation des documents d'archives. Die Erhaltung von Büchern und Archivalien. Second revised and expanded edition. Geneva: Editions IES, 1999 (bilingual edition in French and German).

1. Cohérence du projet

D'une manière générale, la construction de bibliothèques et d'archives est un travail complexe, qui a une influence à long terme sur la conservation et par conséquent l'accès au patrimoine culturel. L'élément essentiel qui influence la qualité de la conservation ne peut pas être identifié dans l'un ou l'autre des thèmes, pourtant essentiels, qui seront abordés ci-après. Il se trouve en revanche dans la cohérence du projet, dans la capacité d'élaborer un projet qui prenne en compte non seulement les exigences concrètes des documents à conserver, mais aussi celles du personnel et des lecteurs. Cette affirmation paraît banale, mais le manque de cohérence est très souvent la cause de problèmes, parfois graves, même dans des bâtiments récemment construits.

La meilleure manière de développer un projet de bâtiment de ce type consiste en un travail collectif, qui concerne en premier lieu l'architecte mais aussi l'archiviste/le bibliothécaire, le conseiller en conservation et naturellement, toutes les compétences spécifiques indispensables, telles que les ingénieurs en bâtiment, en climatisation, etc. Ce travail interdisciplinaire ne peut pas être limité à la phase du projet ; il est indispensable qu'il se poursuive pendant la période de construction où le chantier doit être suivi également par l'archiviste et le conseiller en conservation. C'est au cours de cette phase que sont faits des choix d'apparence anodine qui peuvent avoir une influence sensible sur les facteurs de conservation.

Le rôle du conseiller en conservation dans ce groupe de travail interdisciplinaire est double :

- d'une part il aide à la communication entre l'archiviste/le bibliothécaire et les spécialistes (architectes, ingénieurs), en aplanissant les difficultés de communication (langage et contenu) liées aux jargons professionnels différents. Il est fréquent que les archivistes/bibliothécaires n'aient pas de formation technique. En effet la communication avec des personnes provenant d'un univers professionnel très différent et assez fermé peut être difficile.
- D'autre part, il doit saisir les interactions entre les choix faits pour les divers aspects de la construction en fonction des exigences de la conservation, afin de sauvegarder la cohérence indispensable. Il n'est en effet pas rare que des choix opérés en fonction de critères techniques ou esthétiques aient une influence indirecte mais concrète sur les facteurs de conservation.

1. Coherence of the project

Generally speaking, the construction of libraries and archives is a complex task which has long-term influence on preservation and consequently on access to cultural heritage. The essential element influencing the quality of preservation cannot be found in one or the other of the themes, however essential, which will be dealt with in the rest of this article. On the contrary, it is found in the coherence of the project, in the ability to develop a project taking into account not only tangible requirements relating to the documents to be preserved, but also those of staff and readers. This statement appears banal, but lack of coherence very often causes problems, occasionally serious ones, even in recently constructed buildings.

The best way to develop such a building project is by a collective effort, bringing together primarily the architect but also the archivist or librarian, the preservation specialist, and of course all the indispensable specialist skills of building engineers, climate control engineers, etc. This interdisciplinary work cannot be limited to the project phase; it is vital to continue it during the construction period, where the work must be monitored by both the archivist and the preservation specialist. It is during this phase that seemingly harmless choices are made which yet have a marked influence on preservation factors.

The preservation specialist has a dual role in this interdisciplinary working group:

- on the one hand he facilitates communication between the archivist or librarian and the specialists (architects, engineers), by smoothing out communication difficulties (language and content) due to differing professional terminologies. It frequently happens that archivists or librarians have no technological background. Communication may be difficult with persons coming from a very different and rather closed professional milieu,
- on the other hand, he must work on the interactions between the choices made for the various aspects of the building according to requirements for preservation, in order to ensure the necessary consistency. It is in fact not unknown for decisions made according to technical or esthetic criteria to have an indirect but real influence on preservation factors.

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Centre technique du livre. Marne-la-Vallée. Bâtiment conçu pour la conservation absolue des collections de la Bibliothèque nationale de France.

The Technical Book Centre at Marne-la-Vallée. This building has been designed to store the collections of the Bibliothèque nationale de France according to the highest preservation standards.

2. Choix du terrain

Le meilleur emplacement pour une bibliothèque ou un dépôt d'archives est un terrain bien drainé et un peu surélevé, dans une zone protégée des possibles inondations et crues. L'écoulement des eaux souterraines (nappe phréatique, canalisations) et superficielles devrait être étudié en tenant compte à la fois de la situation normale et de possibles événements exceptionnels qu'il faut considérer avec une bonne marge de sécurité. Les cours d'eau qui se trouvent au-dessus de l'emplacement prévu pour le bâtiment devraient être étudiés pour prévenir leur comportement en cas de pluies particulièrement abondantes, tout comme le réseau des canalisations, en tenant compte de l'éventualité d'un bouchon et d'un reflux des eaux évacuées. Il n'est pas inutile de se renseigner auprès des habitants qui ont gardé le souvenir d'événements météorologiques exceptionnels et de leurs conséquences.

3. Structure et organisation des locaux

Un instrument précieux pour l'élaboration d'un projet est un diagramme de circulation des personnes et des objets, sur lequel sont reportés les circuits possibles ainsi que la fréquence de leur utilisation. Ce diagramme est spécifique à chaque institution. La disposition des locaux techniques, des magasins, des locaux administratifs et publics doit répondre à la nécessité de séparer clairement trois circuits distincts.

3.1 Circuit des livres et des documents

Le circuit des livres et des documents peut être décomposé en différentes étapes essentielles, dont chacune nécessite des espaces adéquats. Certaines fonctions, comme le triage, sont spécifiques aux archives. Chaque institution doit donc élaborer sa propre liste. La description des locaux devrait être élaborée en détail ; il est indispensable de définir les dimensions des locaux en tenant compte de la taille des documents conservés et de leur emballage. Selon les dimensions de l'institution, chaque fonction peut être placée dans une seule ou dans un groupe de pièces. Le circuit des livres et documents, tout comme celui des personnes, devrait être conçu de manière à réduire au minimum les passages entre les locaux "propres" et les locaux "sales"[2].

Locaux " sales "

- Quai de chargement – quai extérieur protégé par un toit – hall d'entrée séparé des couloirs et autres locaux pour éviter l'entrée de masses importantes d'air extérieur. Magasin pour les livres et documents à éliminer.
- Magasin provisoire et quarantaine – locaux nécessairement séparés des magasins ordinaires et avec un accès indépendant de ceux-ci – accessibles avec des chariots.
- Local de tri pour les fonds dont la conservation intégrale n'est pas exigée.
- Local de nettoyage des livres et des documents, muni d'un poste de travail avec aspiration des poussières (qui peuvent être expulsées vers l'extérieur ou retenues par un filtre).

2 Nous définissons comme "locaux sales" les espaces où des livres potentiellement empoussiérés, atteints par des micro-organismes ou infestés par des insectes sont manipulés sans avoir été nettoyés ou traités. En revanche, dans les "locaux propres" on ne devrait trouver que des livres et documents dans un état sanitaire correct.

2. Choice of site

The best site for a library or archive depository is ground which is well drained and slightly raised, in an area safe from possible flooding. The flow of surface and underground water (the water table and piped water) should be studied taking into account the normal situation and possible exceptional events, for which a good margin of security should be allowed. Watercourses at a higher level than the site planned for the building should be studied to anticipate their behaviour in case of particularly heavy rain, as should the network of underground pipes, taking into account the possibility of a blockage or surge-back of drained water. It can also be useful to ask local inhabitants who have memories of exceptional weather events and their consequences.

3. Structure and organisation of the premises

A valuable tool for the development of a project is a circulation diagram for people and objects, on which can be marked the possible routes and their frequency of use. This diagram is specific to each institution. The layout of the technical areas, the stores, as well as the administrative and public areas must all conform to the need to clearly separate three distinct routes.

3.1 Circuit for books and documents

The routing of books and documents can be divided into three different vital stages, each requiring adequate space. Some functions such as sorting of documents are specific to archives. Each institution must therefore develop its own list. The premises should be described in detail; it is important to define the dimensions of the premises taking into account the size of the documents preserved and their packaging. Each function can be located in one room or a group of rooms, according to the size of the institution. The circuit for books and documents, like that for people, should be designed in such a way as to minimise movements between "clean" areas and "dirty" areas[2].

"Dirty" areas

- Loading bay (outside bay protected by a roof), entrance hall separated off from corridors and other rooms to avoid the entry of large volumes of outside air; storage area for books and documents to be discarded.
- Temporary storage area and quarantine area (rooms necessarily separated off from the ordinary stores and with separate access) accessible with pallets.
- Sorting area for collections for which complete preservation is not required.
- Cleaning area for books and documents, provided with a work station fitted with a vacuum cleaner for dust (which may be exhausted outside the building or caught by a filter).

2 "Dirty areas" are defined as those areas where books which may have become dusty, attacked by micro-organisms or infested by insects are handled without having been cleaned or treated. "Clean areas", on the other hand, are those where only books and documents in clean condition should be found.

Locaux "propres"

- Local de conditionnement[3] pour les livres et les documents, éventuellement combiné avec des locaux pour les petites réparations en cas d'absence d'un véritable atelier de restauration.
- Local de photographie et microfilmage, s'ils sont prévus dans le programme de construction.
- Magasin pour le matériel de conditionnement (chemises, enveloppes, boîtes de conservation, etc. déposées sur chariots).
- Atelier de restauration, s'il est prévu dans le programme, avec au minimum un local "sec" et un local "humide" pour les traitements avec eau, ainsi qu'un magasin pour le matériel de restauration.

Si l'on envisage des expositions, les locaux suivants sont en outre nécessaires :

- espaces pour les expositions.
- Local de dépôt des œuvres qui entrent ou sortent de l'institution, pour l'emballage et le déballage.
- Local de traitement des œuvres, préparation des expositions, encadrements, etc.
- Dépôt des vitrines, cadres et matériel de réserve.

Les circuits de circulation des documents devraient permettre la circulation facile des chariots standard, au moins dans les locaux évoqués ci-dessus, dans les magasins et les ascenseurs. Les portes des voies de circulation principales devraient être automatiques pour permettre le passage facile du personnel et des chariots, tout en maintenant une séparation efficace entre les diverses zones de la construction, comme les locaux de travail et les magasins.

3.2 Circuits du personnel de l'institution

Les circuits du personnel seront clairement distincts des circuits publics et des magasins. A l'intérieur de la zone réservée au personnel on devrait limiter autant que possible le nombre de portes fermées à clé en les remplaçant par des portes automatiques ou du moins par des portes commandées par des cartes magnétiques lues à distance. On constate en effet que le personnel met volontairement hors fonction les systèmes peu ergonomiques sans tenir compte des exigences de sécurité.

On accordera une attention particulière au circuit de communication entre le service de prêt des livres et les magasins, en éliminant tous les obstacles sur le parcours, autant pour les personnes que pour les chariots prévus. Ces circuits seront structurés en tenant compte de l'organigramme et des procédures de travail spécifiques à chaque institution. Les activités momentanées, comme les expositions, seront également prises en compte.

3.3 Circuits publics

Les circuits publics devraient garantir un accès facile aux salles de lecture et aux services ouverts aux lecteurs. L'accès aux locaux administratifs devrait être rigoureusement contrôlé, tout comme l'accès aux magasins.

Les sorties de secours pour le public ne doivent en aucun cas traverser la zone des magasins ou les locaux administratifs.

3 On entend par "conditionnement" les opérations d'emballage et de protection du livre et du document.

"Clean" areas

- Packaging room[3] for books and documents, which may be combined with rooms for small repairs in the absence of a full restoration workshop.
- Photography and microfilming room, if these are included in the building programme.
- Store for packaging materials (wallets, envelopes, conservation boxes, etc.) stored on pallets.
- Restoration workshop, if planned in the programme, with at the least a "dry" area and a "wet" area for processes involving water, as well as a store for restoration materials.

If exhibitions are planned, the following areas are also necessary:

- exhibition areas.
- Transit storage for works entering or leaving the institution, for packing and unpacking.
- Room for processing works, preparing exhibitions, framing, etc.
- Store for glass exhibition cases, frames and spare materials.

Routes for documents should permit easy circulation of standard pallets, at least in the areas referred to above, in storage areas and lifts. Main passageways should be provided with automatic doors to allow easy movement of staff and trolleys while maintaining effective separation between different areas of the building such as work spaces and stores.

3.2 Circuits for staff

Routes followed by staff must be clearly separated from those followed by the public and those used for the stores. Within the zone restricted to staff, there should be an absolute minimum of doors locked with keys: automatic doors should be fitted, or at least remotely controlled doors operated by magnetic cards. This is because staff are inclined to turn off non-ergonomic systems without regard for security considerations.

Special attention must be paid to routes at the interface between the book-lending service and the book stores. All obstacles on these routes should be eliminated, as much for staff as for trolleys. These routes must be worked out taking into account the organisational structure and working procedures specific to each institution. Temporary activities, such as exhibitions, must also be taken into account.

3.3 Circuits for the public

Public routes should ensure easy access to reading rooms and services accessible by the public. Access to administrative and storage areas should be tightly controlled.

In no case must emergency exit routes for the public go through the administrative or storage areas.

3 "Packaging" refers to methods of wrapping and protecting books and documents.

4. Construction des magasins

4.1 Dimensions et charges

Chaque local dévolu aux magasins devrait être compris entre 100 et 200 m² ; ces dimensions réduites favorisent l'uniformité climatique et offrent une meilleure sécurité en cas d'incendie ou d'inondation. Les magasins seront séparés par des portes coupe-feu maintenues normalement ouvertes par un système magnétique relié au circuit d'alarme, de manière à faciliter la circulation dans cette zone. Les seules portes qui devraient rester constamment fermées sont celles qui séparent la zone des magasins des autres zones climatiques (locaux administratifs et publics). Les passages les plus fréquentés devraient être équipés d'un sas formé par deux portes disposées à environ trois mètres de distance, de manière à limiter la quantité d'air "extérieur" qui entre dans la zone des magasins. Ces portes peuvent être automatiques (à carte magnétique), ou l'une d'elles peut être une simple barrière climatique montée sur ressorts.

La hauteur des magasins devrait permettre une bonne circulation de l'air également au-dessus des étagères, en fonction du concept de gestion climatique. La hauteur des étagères est en principe limitée à 220 cm pour des raisons pratiques, mais en principe on pourrait utiliser des systèmes de stockage industriels sur grande hauteur si l'on parvenait à respecter les autres critères de conservation.

Dans les magasins dont un mur est en contact avec l'extérieur du bâtiment ou avec le sol, les étagères seront maintenues à une distance d'au moins 40 cm des murs pour éviter la formation de microclimats (sauf en cas d'adoption d'un chauffage périmétral, cf. 5.5.1).

Les dimensions des couloirs de circulation et des portes devraient être adaptées aux types de documents conservés tout en permettant le passage de chariots.

La charge maximale des dalles des magasins sera calculée en fonction des documents conservés, en tenant compte du possible équipement de tous les magasins avec des étagères roulantes, même si cela n'a pas été prévu dans le projet initial. Le poids d'un mètre linéaire de volumes de grand format ou de documents d'archives peut atteindre 1,0 kN[4]. Pour les registres de grand format, ce poids peut varier entre 1,5 et 2,0 kN. Le calcul de la charge maximale doit prendre en compte les effets d'une possible inondation (causée par exemple par l'intervention des pompiers lors d'un incendie), où le poids du matériel entreposé peut doubler. M. Duchein[5] conseille une charge minimale de 12 kN/m² pour des magasins équipés avec des étagères fixes de 220 cm de hauteur. L'adoption d'étagères mobiles cause une augmentation de charge qui varie entre 100% et 150% selon la largeur des couloirs et le poids des étagères.

4 1 kN correspond à 100 Kg.

5 M. Duchein. La construction des bâtiments d'archives, construction et équipements. Paris : Direction des Archives de France, 1985. Cette œuvre reste actuelle pour certains aspects et met en relation les différentes composantes des archives.

4. Construction of the stores

4.1 Dimensions and specifications

Each room to be used for document storage should be between 100 and 200 square metres in area: this limited size promotes a uniform environment and gives better security in case of fire or flood. The stores will be separated by fireproof doors, but in order to facilitate movement in this zone, the doors will normally be kept in the open position by a magnetic device linked to the alarm circuit. The only doors that should remain closed at all times are those separating the store zone from other environment zones (the administrative and public areas). The busiest passageways should be provided with an airlock formed by two doors approximately three metres apart, so as to limit the amount of outside air entering the store zone. These doors may be automatic (by magnetic card) or one of them may be a simple environment barrier mounted on springs.

The height of the stores should also allow good circulation of air above the shelves, according to the concept of environment management. The height of the shelving units is in principle limited to 220 cm for practical reasons, but very high industrial storage systems could be used provided other preservation criteria were adhered to.

In stores where one wall is in contact with the outside of the building or with the ground, the shelf units must be kept at a distance of at least 40 cm from the walls, to avoid the creation of microclimates (except in cases where perimeter heating is installed, cf. 5.5.1).

The dimensions of passageways and doors should be adapted to the types of documents stored while still allowing the passage of standard pallets.

The maximum floor loading in the stores will be calculated in relation to the documents kept there, taking into account the possibility that all the stores may be fitted with mobile shelves even if that was not foreseen in the original plan. The weight of a linear metre of large-format volumes or of archive documents may be up to 1.0 kN[4]. In the case of large-format registers, this weight may vary between 1.5 and 2.0 kN. Calculation of the maximum loading must take into account the effects of possible flooding (caused for example by water used to fight a fire), where the weight of the stored materials may double. M. Duchein[5] advises a minimum loading of 12 kN/m² for stores fitted with fixed 220 cm high shelving units. The installation of mobile shelving produces a weight increase of between 100 and 150%, according to the width of the corridors and the weight of the shelves.

Centre technique du livre. Marne-la-Vallée. Magasins de grande hauteur.

The Technical Book Centre at Marne-la-Vallée. High-sized shelving.

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4 1 kN equals 100 Kg.

5 M. Duchein. La construction des bâtiments d'archives: construction et équipements. Paris: Direction des Archives de France, 1985. This work remains current for certain aspects and describes the links between the various parts of archives buildings.

4.2 Construction de magasins souterrains

La position idéale des magasins se trouve au-dessus du niveau du sol, idéalement aux étages intermédiaires, sans être directement sous un toit. Cette position offre une plus grande facilité de gestion de conservation. Si l'on est contraint d'envisager des magasins souterrains, on est confronté à des problèmes supplémentaires qui doivent être gérés avec soin.

La position sous terre exige d'accorder une grande attention aux problèmes d'infiltrations d'eau et aux inondations. Il est très utile de prévoir un couloir technique périphérique que l'on peut facilement inspecter, muni d'écoulements pour l'eau, qui sépare les murs extérieurs (correctement drainés et imperméabilisés) des murs des magasins, lesquels seront à leur tour imperméabilisés de l'extérieur (lire également le paragraphe relatif à la structure des murs).

Il est également nécessaire de prévoir des points d'accumulation pour l'eau provenant d'accidents internes au bâtiment (rupture de canalisations ou de machines) ou de sinistres (intervention des pompiers en cas d'incendie aux étages supérieurs). Ces vasques d'accumulation seront liées aux canalisations (avec des clapets antirefoulements) ou munies de pompes de refoulage de l'eau (toujours en double et munies d'une alimentation autonome).

Pour les autres aspects, les observations formulées pour les magasins non souterrains sont valables.

4.3 Construction de magasins au-dessus du niveau du sol

Le concept d'un couloir technique entourant les magasins peut être adopté avantageusement pour ce type de construction. Les indications qui suivent s'adaptent en effet très bien avec l'utilisation de cette "ceinture technique" qui entoure les magasins et qui peut être utilisée comme voie de circulation du personnel.

- En premier lieu les magasins devraient jouir d'une grande stabilité climatique et être bien protégés des variations climatiques extérieures.
- Les murs extérieurs des magasins devraient être massifs et très bien isolés, construits avec une couche importante de matières poreuses et hygroscopiques[6] (avec des crépis et peintures très perméables à la vapeur d'eau) ; ces matières servent de "tampon climatique" qui stabilise le climat interne des locaux en absorbant ou cédant l'humidité de l'air[7].
- La finition de la surface des murs intérieurs sera aussi lisse que possible, pour éviter les dépôts de poussière. Les plafonds seront traités de la même manière ou seront au moins peints. On ne laissera aucune surface brute.
- Les sources de lumière artificielle seront si possible intégrées aux plafonds pour réduire les dépôts de poussière mais on évitera les plafonds suspendus.

6 Un étude approfondie des matières de construction et de leur influence sur le climat interne se trouve dans Padfield, T. The Role of Absorbent Building Materials in Moderating Changes of Relative Humidity. Published as a report from the Department of Structural Engineering and Materials, The Technical University of Denmark. Series R no. 54, 1999 ISBN 87-7740-256-1 ISSN 1396-2167 ou sur Internet <http://www.bkm.dtu.dk> Cliquez sur " Reports " (Padfield).

7 La construction avec ce type de matériaux demande des temps de séchage très longs ; l'humidité résiduelle des murs doit être vérifiée avec soin avant d'occuper les locaux. En effet les problèmes de conservation sont fréquents en cas d'occupation trop rapide des magasins.

4.2 Construction of underground stores

The ideal location for stores is above ground level, ideally on intermediate floors, but not directly under a roof. This location allows easier management of preservation. If it is necessary to consider underground stores, extra problems arise, which must be managed with care.

An underground location means greater attention must be paid to problems of water seepage and flooding. It is useful to plan a service corridor around the perimeter, fitted with run-off channels for water. This corridor, which can be easily inspected, separates the external walls (correctly drained and waterproofed) from the walls of the stores which will also receive external waterproofing (see also the paragraph on the structure of walls).

It is also necessary to plan collection points for water resulting from accidents inside the building (broken pipes or machines) or from disasters (water from firefighting on the upper floors). These collecting basins must be linked to the piping (with anti-return valves) or fitted with pumps to pump away water (always with back-up pumps and with an independent power supply).

For the other aspects, the remarks about above-ground stores apply.

4.3 Building stores above ground level

The concept of a service corridor around the stores may usefully be adopted for this type of construction. The following remarks apply perfectly well to the use of such a "technical beltway" surrounding the stores and which can be used as a thoroughfare for staff.

- Firstly there must be a very stable climate in the stores, which must be well protected from variable external weather.
- The external walls of the stores should be solid and very well insulated, incorporate a substantial layer of porous and hygroscopic[6] materials, (with rendering and paint that is very permeable to water vapour); these materials serve as a "climate buffer" which stabilises the climate inside the premises by absorbing or yielding up humidity from the air[7].
- The surface finish of the interior walls will be as smooth as possible, to avoid collecting dust. The ceilings will be treated in the same way, and will be at least painted. There must be no rough untreated surface.
- Artificial light sources are to be incorporated in the ceilings, if possible, to avoid collecting dust, but suspended ceilings are to be avoided.

6 An in-depth study of building materials and their influence on the internal climate can be found in: T, Padfield. The Role of Absorbent Building Materials in Moderating Changes of Relative Humidity. Published as a report from the Department of Structural Engineering and Materials, The Technical University of Denmark; Series R, no. 54,1999; ISBN 87-7740-256-1; ISSN 1396-2167. It is available via the Internet on website http://www.bkm.dtu.dk - click on "Reports"(Padfield).

7 Building with this type of materials requires very long drying times; the residual humidity of the walls must be carefully checked before the premises are occupied. Preservation problems frequently arise when premises are occupied too soon.

- Les sols devraient être solides et résistants aux abrasions pour permettre l'utilisation de chariots ; leur surface sera lisse et imperméable, de couleur assez claire pour faciliter le maintien d'une bonne propreté des magasins. On évitera les obstacles qui limitent l'utilisation de chariots ; les rails des étagères mobiles seront intégrés directement dans les chapes, en veillant à une parfaite horizontalité des sols. Il est judicieux d'installer de tels rails dans tous les magasins même si l'on ne prévoit pas de tous les munir d'étagères mobiles.
- Tous les tuyaux et canalisation devraient passer à l'extérieur des magasins, en limitant à l'indispensable les entrées et sorties des magasins. En particulier, les magasins ne seront pas traversés par des conduites ou des écoulements d'eau. On n'installera aucun appareil non indispensable dans ces lieux.
- Les ouvertures dans les murs périphériques des magasins seront réduites au minimum indispensable. La lumière naturelle n'est pas nécessaire dans les magasins et ne peut être tolérée qu'en quantité très limitée. On lui préfère en général les sources de lumière artificielle. Si l'on choisit de munir les magasins de fenêtres, celles-ci doivent être très petites, parfaitement isolées et pouvoir être entièrement obscurcies[8]. Les petites ouvertures dans les magasins offrent l'avantage de pouvoir procéder à l'aération naturelle des magasins en cas de nécessité.
- Pendant les heures d'activité de l'institution les magasins devraient être illuminés avec une très faible lumière (20 à 50 lux), avec possibilité d'élever le niveau lumineux à 200-300 lux pendant quelques minutes grâce à des interrupteurs temporisés (temps de fonctionnement de 10 à 15 minutes). Pendant les heures de fermeture, les magasins peuvent rester dans l'obscurité totale. Les éventuelles fenêtres devraient dans ce cas être complètement obscurcies.
- Les sources lumineuses artificielles devraient en outre émettre une quantité limitée de rayons ultraviolets (inférieurs à 75 mW/lm). Leur apport de chaleur dans les locaux devrait être également très faible. Lors du calcul du système de gestion climatique il est nécessaire de prendre en compte la chaleur émise par les sources de lumière artificielle.

- Floors should be solid and resistant to abrasion, so that pallets can be used. Their surface should be smooth and impermeable. Their colour should be light enough to facilitate keeping the stores in a good state of cleanliness. Obstacles that might restrict the use of trolleys are to be avoided. The rails of mobile shelving are to be integrated directly into the yokes, ensuring that the floors are perfectly level. It is prudent to install such rails in all the stores even if it is not planned to install mobile shelving in all of them.
- All the pipework should be run outside the stores, and should enter and leave the stores only in cases where this is absolutely indispensable. In particular, no water pipes (mains or wastewater) should be run through the stores. No non-essential apparatus should be installed in the stores.
- The number of openings in the exterior walls of the stores should be limited to the absolute minimum necessary. Natural light is not necessary in the stores and can be tolerated only in limited amounts. Generally, artificial lighting is preferred. If it is decided to provide the stores with windows, these must be very small, very well insulated and able to be completely covered[8]. The small openings in the stores have the advantage of allowing them to be naturally ventilated if necessary.
- During the institution's working hours, there should be very low level lighting in the stores (20 to 50 lux), with the possibility of increasing the lighting level to 200-300 lux for a few minutes at a time by the use of time switches (operating time: 10 to 15 minutes). When the institution is closed, the stores can remain in total darkness. In that case, any windows should be completely covered.
- Furthermore, artificial light sources should produce only low ultraviolet radiation (less than 75 µW/lm). Their heat output in the stores should also be very low. Planning the system of environment management should also take into account the heat put out by artificial light sources.

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Magasins site François Mitterrand,Bibliothèque nationale de France.

Storage areas, François Mitterrand site, Bibliothèque nationale de France.

8 La lumière du jour ne doit être admise qu'en très petite quantité et de manière indirecte, en la faisant réfléchir sur des surfaces peintes avec du blanc de titane, afin de filtrer les radiations ultraviolettes.

8 Natural light can be allowed only in limited amounts, and indirectly, by having it reflected from surfaces painted with titanium white, so as to filter out ultraviolet radiation.

5. Conditions climatiques internes

5.1 Données générales

La stabilité du climat intérieur doit être garantie en premier lieu par la qualité de la construction et donc essentiellement par des moyens passifs, avec des murs massifs et très bien isolés. Un concept de stabilité climatique fondé sur des appareils de traitement de l'air est à exclure dans tous les cas.

La gestion du climat des magasins devrait être complètement distincte du traitement de l'air des locaux administratifs et publics.

Le concept de gestion climatique et d'aération des magasins devra considérer la disposition des étagères et leur structure pour obtenir un climat uniforme.

Les canaux de ventilation seront recouverts de matériel stable, facile à nettoyer et sans aspérités.

5.2 Renouvellement de l'air dans les magasins

Le renouvellement de l'air dans les magasins ne correspond en aucun cas à celui prévu pour les locaux de travail. A priori, la fréquentation des magasins est occasionnelle et limitée dans le temps. Pour cette raison, un renouvellement par jour est largement suffisant. Selon la fréquentation des magasins, un changement d'air hebdomadaire peut également suffire.

5.3 Valeurs des conditions climatiques internes

Les valeurs climatiques pour les magasins, température et humidité relative de l'air, sont exprimées par des fourchettes qui limitent les variations saisonnières acceptables. Les variations d'humidité à court terme devraient être en principe limitées à 2% par heure et par jour.

La stabilité climatique est un facteur de conservation de très grande importance. Bien que l'influence des valeurs absolues de température et d'humidité relative sur la conservation soit clairement établie, il faut les considérer en tenant compte de l'évolution annuelle du climat dans la région considérée[9]. D'autre part, l'humidité relative se révèle être un facteur de conservation ou d'altération essentiel pour presque tous les biens culturels écrits ou imprimés. Son contrôle devrait être privilégié par rapport à celui de la température.

Si une collection est consultée en salle de lecture, il faut

9 En particulier, la construction dans des pays tropicaux doit tenir compte des exigences spécifiques aux oeuvres conservées depuis longtemps dans le climat local.

10 Les valeurs climatiques "idéales" sont celles données ci-dessous pour la période hivernale ; cependant, il faut éviter des chocs climatiques pour les objets transportés des magasins aux salles de lecture et vice versa, car la stabilité climatique est un facteur de conservation aussi important que les valeurs absolues du climat. Si possible, on contrôlera aussi le climat dans les salles de lecture. Dans le cas contraire, on devra adapter dans une certaine mesure le climat des magasins.

5. Internal environment

5.1 General data

The stability of the internal environment should in the first place be ensured by the quality of the building and thus essentially by passive means, with solid and very well insulated walls. Environmental stability should never be sought by the use of air conditioning.

Environment management in the stores should be completely separate from the air conditioning of the administrative and public areas.

Design of environment management and ventilation of the stores should take into account the arrangement and structure of shelving units, to obtain a uniform environment.

Ventilation ducts should be covered with stable material that is smooth and easy to clean.

5.2 Renewal of air in the stores

Renewal of air in the stores bears no relation to that provided in work areas. It is assumed that the presence of staff in the stores will be occasional and of short duration. For this reason, one renewal per day is largely sufficient. Depending on staff movements in the stores, a weekly renewal of air may also be sufficient.

5.3 Internal environment levels

The environment levels in the stores, the temperature and relative humidity of the air, are expressed by ranges giving the limits of acceptable seasonal variations. Short-term variations in humidity should in principle be limited to 2% per hour per day.

Environmental stability is a very important preservation factor. Although the influence on preservation of absolute temperature and relative humidity values has been clearly established, these should be considered taking into account the annual climatic variations in the region in question[9]. Moreover, relative humidity is known to be a vital factor in the preservation or deterioration of almost all types of written or printed cultural property. Control of relative humidity should take priority over temperature control.

If books are to be available for reading room use, the environment of such rooms must be considered, in order to avoid harmful thermal shocks[10].

9 In particular, buildings in tropical countries should be designed to allow for the specific requirements of works that have been preserved for a long time in the local climate.

10 The "ideal" environment levels are those given on page 13 for the winter period. However it is necessary to avoid thermal shocks when objects are transported from the stores to the reading rooms and vice versa, for environmental stability is just as important a preservation factor as the absolute environment levels. If possible, the environment in the reading rooms should also be controlled - but if not, the environment in the stores will have to be adapted to a certain extent.

considérer également les valeurs climatiques de ces locaux pour éviter des chocs climatiques nuisibles[10].

Valeurs climatiques dans les magasins (situés en climat tempéré) :

- température hivernale : 16-18° C (60-64° F), si la température des locaux de consultation est de 21-22° C (69-71° F).
- Température estivale :
- magasins et salles de lecture climatisés : température des magasins 18-20° C (64-68° F) pour une température d'environ 24° C (75° F) dans les salles de lecture, sinon 4-5° C (40° F) en dessous de la température des salles de lecture.
- Salles de lecture non climatisées : température des magasins 22-24° C (71-75° F), si la température des salles de lecture ne dépasse pas 27-28° C (80-82° F), sinon 4-5° C (40° F) en dessous de la température des locaux de travail.
- Humidité relative hivernale : 45-55 %.
- Humidité relative estivale : 50-60 %. Les valeurs dépassant 65 % devraient être évitées pour des périodes excédant 24 à 48 heures, selon la gravité du dépassement.
- Humidité relative pour des locaux destinés à la conservation de matériel photographique : 30-40 %. Température idéale pour ce type de magasins : 12-14° C (53-59° F)[11].

L'application de divers concepts de gestion climatique est envisageable selon le type de construction des murs extérieurs et l'emplacement des magasins.

5.4 Gestion climatique entièrement naturelle

Si les besoins en renouvellement de l'air dans les magasins sont très réduits, on peut concevoir un système d'aération qui s'active une fois par jour ou par semaine, en renonçant complètement à l'installation d'appareils d'humidification et de déshumidification. Ce système permet un renouvellement de l'air uniquement quand le contenu d'humidité absolue de l'air extérieur permet d'obtenir une humidité relative correcte par rapport à la température des magasins[12]. Il sera par conséquent nécessaire d'examiner pendant une année les valeurs du climat local pour déterminer la fréquence possible des échanges d'air à chaque saison[13]. L'avantage de ce système est un coût d'installation et de fonctionnement très avantageux car la ventilation est limitée à la pulsion d'air filtré et éventuellement chauffé, commandée par un senseur extérieur et par un ou plusieurs senseurs internes. Ce système se combine très bien avec un chauffage périphérique des locaux (cf. 5.5.1).

Si le concept de gestion climatique ne prévoit pas d'appareils d'humidification et de déshumidification, on installera des branchements techniques en nombre suffisant pour installer ces appareils dans un deuxième temps, par exemple en cas de modifications climatiques (changement de la fréquence de périodes très sèches ou très humides) ou pour accélérer le séchage des murs après la construction.

11 Les documents conservés à ces températures ne devraient pas être transportés directement des magasins aux salles de lectures et vice versa ; ils devraient subir un conditionnement progressif, par exemple en les transportant dans des boîtes en carton spécifiques qui ne sont ouvertes que quelques heures après le transport.

12 Le diagramme de Mollier met en relation température, humidité absolue et humidité relative de l'air.

13 Une telle étude a été exécutée pour les Archives Cantonales Vaudoises en Suisse ; elle permet de prévoir l'âge moyen de l'air des magasins pendant les quatre saisons de l'année. Sur la base de ces données et de l'utilisation prévue des magasins, on peut décider si l'application de ce concept est envisageable.

Environment ranges in the stores (in temperate zones):

- winter temperature: 16-18º C (60-64° F), if the temperature of the reading rooms is 21-22º C (69-71° F).
- Summer temperature:
- air conditioned stores and reading rooms: the temperature in the stores should be 18-20º C (64-68° F) when it is 24º C (75° F) in the reading rooms, otherwise 4-5º C (40° F) below the reading room temperature.
- Non-air-conditioned reading rooms: the temperature in the stores should be 22-24º C (71-75° F), if the reading room temperature does not exceed 27-28º C (80-82° F), otherwise 4-5º C (40° F) below the temperature of the work areas.
- Relative humidity in winter: 45-55%.
- Relative humidity in summer: 50-60%. Levels exceeding 65% should be avoided for periods exceeding 24-48 hours, depending on the seriousness of the overshoot.
- Relative humidity for rooms intended for preservation of photographic material: 30-40%. Ideal temperature for this type of storage area: 12-14º C (53-59° F)[11].

It is possible to apply various types of environment management systems according to the construction of the outside walls and the placement of the stores.

5.4 Completely natural environment management

If the need for renewal of air in the stores is not very great, it is possible to design a system of aeration which operates once a day or once a week, completely avoiding the installation of humidifiers and dehumidifiers. This system allows renewal of the air only when the absolute humidity of the outside air makes it possible to obtain a correct relative humidity in relation to the temperature in the stores[12]. It will therefore be necessary to monitor local climatic variations over one year in order to establish the possible frequency of renewal of air in each season[13]. This system has the advantage of low installation and operating costs, as the ventilation is done by blowing filtered and perhaps heated air, controlled by an external sensor and by one or more internal sensors. This system combines well with a system of heating around the perimeter of the premises (cf. 5.5.1).

If humidifers and dehumidifiers are not planned into the environment management system, a sufficient number of junction points can be installed to allow the installation of such equipment at a later stage, for example in case of climatic changes (changes in the frequency of periods of very dry or very wet weather) or to speed up the drying out of the walls after construction.

11 Documents preserved at these temperatures should not be transported directly from the stores to the reading rooms and vice versa: they should be protected and allowed to adapt progressively, for example by transporting them in special cardboard boxes which are only opened a few hours after the move.

12 Mollier's diagram shows the relationship between air temperature, absolute humidity and relative humidity.

13 Such a study was carried out for the Archives Cantonales of Vaud,Switzerland. It provides a means of predicting the average age of the air in the stores over the four seasons of the year. On the basis of this data and the planned use of the stores, the feasibility of applying this scheme can be established.

5.5 Divers modèles de climatisation

Quand le modèle de climatisation entièrement naturelle n'est pas applicable, il est nécessaire de recourir à des appareils de traitement de l'air pulsé dans les magasins, qui doit être adapté à des valeurs correctes de température et humidité relative si celles-ci ne correspondent pas déjà aux valeurs souhaitées.

Un système de climatisation sert à fournir la quantité nécessaire d'air frais ayant des valeurs correctes de température et d'humidité relative ; il ne doit en aucun cas servir à compenser des influences extérieures négatives, qui doivent être amorties par la qualité de la construction.

5.5.1. Concept de climatisation minime

Un modèle minimal de climatisation comprend un système de chauffage distinct de celui de renouvellement de l'air.

- Le chauffage périphérique[14] des murs extérieurs ou sous terre a l'avantage d'exclure la formation de zones plus froides et humides et de favoriser l'uniformité climatique des locaux. Il permet également une aération occasionnelle des locaux, car l'uniformité climatique n'est pas liée au brassage de l'air par la climatisation. La surface des magasins peut être entièrement utilisée pour les étagères, car la distance entre celles-ci et les murs extérieurs peut être réduite à 15 cm. Ce type de chauffage concerne tous les murs où la différence de température entre le magasin et le côté extérieur du mur dépasse 5° C (41° F) (il concerne par exemple aussi les murs entre les magasins et des locaux techniques non chauffés).
- La différenciation entre le chauffage et le traitement de l'air pulsé permet de construire une installation plus simple et moins sujette aux pannes et aux dérangements.
- Dans des constructions pourvues d'une très bonne isolation thermique en zone tempérée, il devrait être possible de renoncer à un système de refroidissement de l'air pour la période estivale, hormis les nécessités de déshumidification.
- L'installation d'aération peut être mise en fonction seulement dans le cas où l'on désire renouveler l'air du local ou si les valeurs climatiques internes s'écartent des normes. Il est également possible de concevoir un système où la circulation de l'air (il s'agit essentiellement de recirculation) est maintenue constamment à un niveau très bas et n'est augmentée que lorsque les valeurs climatiques doivent être modifiées afin de garantir une bonne pénétration de l'air pulsé.
- L'installation de traitement de l'air comprendra donc des appareils d'humidification et de déshumidification. Ces appareils devront être sous-dimensionnés par rapport aux habitudes courantes, car on privilégie la stabilité climatique par rapport au rétablissement rapide des valeurs climatiques correctes. La vitesse de variation des valeurs hygrométriques devrait être inférieure à 2% par heure et par jour, à l'intérieur des limites citées.

14 H.Grossesschmidt. Stabilisierung des Raumklimas als Grundlage sachgerechter Bewarung. Das Museumsdepot. München : Weltkunst Verlag,1998, pp 49-80.

5.5 Various air-conditioning models

When the completely natural model of air conditioning is not applicable, the stores must resort to using blown-air apparata. The air must be brought to the right temperature and relative humidity if these are not already at the desired levels.

An air conditioning system provides the necessary volume of fresh air at the correct temperature and relative humidity: it should never be used to compensate for negative outside influences, which should be neutralised by the quality of the construction.

5.5.1 The concept of minimum air-conditioning

A model of minimum air conditioning includes a heating system different from the system for renewing the air.

- Perimeter heating[14] of the outside or underground walls has the advantage of cutting out the formation of colder or damper zones and promoting a uniform environment in the premises. It also allows occasional ventilation of the premises, as the uniform environment is not related to movement of air due to air conditioning. The surface area of the stores can be fully used for shelving, as the distance between the shelving units and the outside walls can be reduced to 15 cm. This type of heating is relevant to all walls where the temperature difference between the store and the outside of the wall exceeds 5° C (41° F) (it also concerns, for example, the walls between the stores and unheated service areas).
- The distinction between heating and blown-air-conditioning makes it possible to provide installations which are simpler and less subject to breakdowns and disruptions.
- In buildings with very good thermal insulation, in temperate zones, it should be possible to avoid using a cooling system during the summer, apart from the need for dehumidification.
- It is possible to operate the ventilation system only in cases where one wishes to renew the air in the building or if the internal environment levels depart from the prescribed levels. It is also possible to design a system where the air circulation (essentially recirculation) is constantly maintained at a very low level and is increased only when environment levels must be modified to ensure good penetration of the blown air.
- The air-conditioning plant will therefore include humidifiers and dehumidifiers. These will have to be smaller than is the usual practice, as environmental stability takes priority over the quick return to correct environment levels. The speed of variation of hygrometric levels should be less than 2% per hour per day, within the limits quoted.

14 H.Grossesschmidt. Stabilisierung des Raumklimas als Grundlage sachgerechter Bewarung. Das Museumsdepot. München : Weltkunst Verlag,1998, pp 49-80.

5.5.2 Concept de climatisation classique

Un système de chauffage des locaux à travers l'air pulsé demande une circulation de l'air constante et suffisamment intense pour garantir une bonne uniformité climatique. Les murs extérieurs ne devraient jamais subir des différences de température superficielle supérieures à trois degrés.

Les appareils de climatisation (chauffage, refroidissement, humidification et déshumidification) seront sous-dimensionnés par rapport aux standards habituels pour favoriser la stabilité climatique[15].

Si les magasins de l'institution occupent plusieurs étages d'un bâtiment il est nécessaire de prévoir des unités de traitement de l'air à chaque étage, éventuellement reliées à une installation centrale de pré-traitement de l'air. Les installations devraient permettre la gestion étage par étage des valeurs hygrométriques.

5.6 Filtration de l'air

Indépendamment du choix du système de climatisation, l'air extérieur pulsé dans les magasins devrait être soigneusement filtré pour éliminer les poussières suspendues et les polluants gazeux. On conseille une combinaison de filtres à poussière de classe F8/F9 (ou mieux encore, H10/H11) avec un filtre à charbon actif et un filtre à absorption chimique de type Purafil. Ainsi les polluants sont pratiquement éliminés.

L'air en recirculation passera à travers les mêmes filtres ou un groupe de filtres similaires, de manière à éliminer les polluants provenant d'infiltrations d'air extérieur ou de la décomposition de matières présentes dans les magasins.

L'investissement pour les filtres et leur indispensable entretien régulier sera au moins en partie compensé par une réduction des frais de nettoyage des magasins si l'on a pris soin d'introduire uniquement des livres et documents correctement dépoussiérés.

5.5.2 The traditional concept of air-conditioning

A blown air heating system requires air circulation that is constant and intense enough to guarantee good environmental uniformity. The outside walls should never undergo differences in surface temperature higher than 3 degrees.

Air-conditioning apparata (heating, cooling, humidification and dehumidification) should be smaller than specified in the usual standards, to promote environmental stability[15].

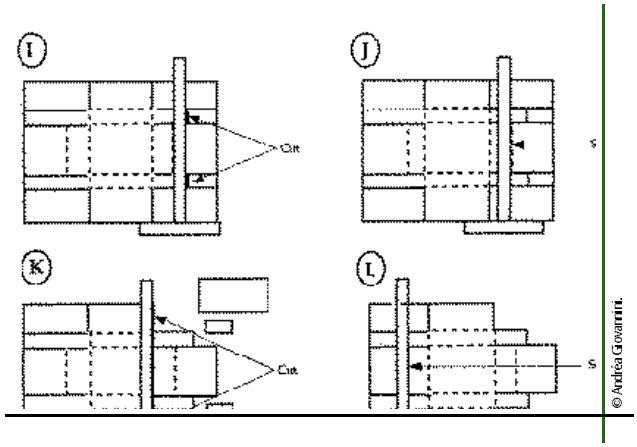
If the institution's stores occupy several floors of a building, then air conditioning units should be planned on each floor, perhaps linked to a central pre-conditioning unit. The installation should permit management of hygrometric levels specific to each floor.

5.6 Air filtration

Independently of the air conditioning system chosen, outside air blown into the stores should be carefully filtered to eliminate suspended dust particles and gaseous pollutants. The recommended solution is a combination of dust filters of type F8/F9 (or, better still, H10/H11) with an active carbon filter and a Purafil-type chemical absorption filter. In this way the pollutants are practically eliminated.

The recirculated air will pass through the same filters or a group of similar filters, so as to eliminate the pollutants from infiltration of outside air or from decomposition of materials present in the stores.

The investment in filters and their necessary maintenance will be partly compensated for by a reduction in the cost of cleaning the stores if care has been taken to bring in only correctly dusted books and documents.



Archives d'Etat et Bibliothèque cantonale de Bellinzona,Suisse.

State Archives and Cantonal Library in Bellinzona,Switzerland.

15 Il faut éviter le typique profil en dent de scie des valeurs climatiques causé par l'enclenchement et le déclenchement continu d'appareils qui se concurrencent, ce qui est nuisible pour les livres et les documents et entraîne des coûts de fonctionnement très élevés.

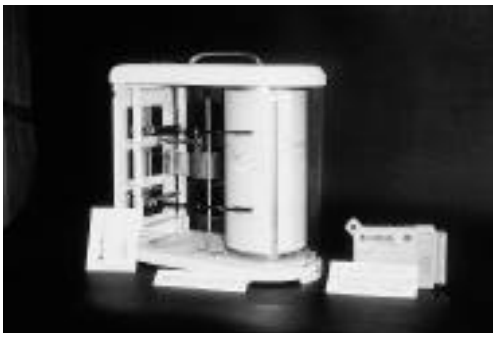
15 Efforts must be made to avoid the exaggerated swings in environment levels typically caused by the continual switching on and off of competing appliances, which is harmful for books and documents and leads to very high operating costs.

5.7 Mesure des valeurs climatiques

Le contrôle des valeurs climatiques fait partie des activités essentielles de gestion des magasins. Il sera exécuté avec des sondes présentes si possible dans chaque local. En présence d'un système de climatisation, il sera également nécessaire de disposer d'une sonde pour le climat extérieur et de sondes dans les canaux de l'air pulsé. Les sondes devraient avoir une précision de +/- 1% pour l'humidité relative et de 1+/- 0,5 degrés. Elles peuvent être constamment reliées à un système de gestion et de surveillance du climat, munies d'alarmes télétransmises lorsque les valeurs climatiques dévient gravement des valeurs données, (lors du non-déclenchement d'un humidificateur ou d'un déshumidificateur où une intervention rapide devient indispensable).

Pour des petites institutions, et en présence d'installations techniques très simples, on peut utiliser de simples appareils thermohygrographes, qui doivent cependant être maintenus sous contrôle régulier.

Dans tous les cas, les appareils de mesure du climat devraient être facilement étalonnables sur place. Cette opération sera exécutée au minimum une fois par an pour garantir des mesures correctes.



Thermohygrographe.

Thermohygrograph.

6. Protection contre les catastrophes

6.1 Eau

Les magasins devraient être complètement imperméables aux inondations (ou rendus tels en moins d'une heure) jusqu'à une hauteur dépassant d'un mètre le niveau maximal prévisible de l'eau en cas d'événements exceptionnels.

A l'intérieur du bâtiment, tous les points où l'eau pourrait s'écouler seront munis d'écoulements de capacité adéquate. Ce risque est particulièrement présent dans les locaux techniques de la climatisation, dans les laboratoires, cuisines, aires de repos et services. De plus, les parcours de l'eau provenant de ruptures accidentelles de conduites et d'appareils seront étudiés de manière à prévenir l'inondation des magasins et à favoriser l'accumulation dans les points de récolte prévus (cf. 3.2).

Tous les locaux techniques munis d'appareils alimentés en eau courante, ainsi que tous autres magasins seront munis de senseurs d'eau posés sur le sol, reliés à un système de téléalarme. Il existe des senseurs ponctuels et d'autres sous forme de câble.

La structure des locaux et des voies de communication internes du bâtiment devrait permettre de circonscrire les petits sinistres causés par l'eau.

5.7 Measurement of environment levels

The monitoring of environment levels is part of the essential work of management of the stores. It will be carried out with testers located if possible in each store. If an air conditioning system is in place, it will also be necessary to have available a tester for the outside weather conditions and testers in the ducts for blown air. The testers should have a margin or error of +/- 1% for relative humidity and 1 +/- 0.5 degrees. They can be permanently linked to an environment control and management system, fitted with remote warning devices which set off an alarm when the actual levels vary seriously from the set levels, (when a humidifier or dehumidifier does not operate as it should, in which case urgent intervention is essential).

In small institutions, and in cases where technical installations are quite basic, one can use simple thermohygrographs, which should however be kept regularly monitored.

In all cases, the environment measuring apparatus should be able to be easily calibrated in situ. This operation must be carried out at least once a year to ensure correct measurements.

6. Disaster protection

6.1 Water

The stores should be completely impermeable to flooding (or able to be made so in less than an hour) up to a height exceeding by one metre the highest foreseeable water level in case of exceptional events.

Inside the building, all the points where water could drain away should be fitted with drains of sufficient capacity. This risk exists particularly in areas with air conditioning plant, in laboratories, kitchens, rest areas and service areas. Moreover studies must be made of the course taken by water from accidental breakages of pipes and equipment, in order to prevent flooding of the stores and to allow water to collect at the places provided (cf. 3.2).

All technical areas containing apparata using running water, and all other stores, must be fitted with water alarms located at ground level and linked to a remote alarm system. Alarms are available in the form of separate devices for particular places and in the form of cables.

The structure of the premises and of thoroughfares inside the building should make it possible to limit the damage caused by small incidents involving water.

6.2 Incendie

Les sondes de détection d'incendie et de fumée sont soumises à des prescriptions nationales et locales précises. Elles devraient être installées dans tous les locaux du bâtiment, y compris les magasins.

L'installation d'un système d'extinction d'incendie devra être évaluée en tenant compte des conséquences pour les documents en cas d'activation du système, et des risques liés à la présence et aux éventuelles pannes du système (par exemple la présence de conduites d'eau sous pression dans les magasins).

La structure des magasins devrait en tout cas permettre de circonscrire immédiatement un incendie dans un magasin. La séparation entre les magasins et les locaux administratifs et publics devrait garantir la protection des magasins en cas d'incendie dans les autres locaux.

6.3 Vol

L'analyse des risques de vol devrait être faite en tenant compte de la valeur commerciale des biens culturels conservés dans l'institution. Le système de protection considérera autant les risques liés aux périodes d'activités qu'aux périodes de fermeture.

Dans ce cas également, une mesure essentielle consiste à séparer clairement les parties publiques et administratives des magasins, grâce à des parcours de circulation clairs et fonctionnels.

Il est nécessaire d'évaluer ceux relatifs au vandalisme et aux agressions contre les bâtiments, en particulier pour les locaux accessibles depuis l'extérieur.

6.4 Sorties de secours et intervention en cas de catastrophe

La conception architecturale des magasins devrait considérer les exigences liées à une intervention d'urgence dans les magasins en cas de catastrophe. L'évacuation rapide des livres et des documents devrait être facilitée en cas de nécessité, en tenant compte du type et de la quantité de documents conservés.

Les sorties de secours seront prévues de manière à ne pas troubler la séparation claire entre les différentes zones de l'institution. Les sorties de secours des lecteurs ne doivent pas traverser les magasins et devraient éviter également les zones administratives.

7. Etagères et autres équipements

Il est judicieux de prévoir avec précision les équipements nécessaires au moment de la conception des locaux. Pour les étagères et autres équipements, voir entre autres les œuvres citées de M. Duchein - pp 42-59 - et A. Giovannini - pp 358-381.

6.2 Fire

Smoke-and fire-detection devices must conform to precise national and local regulations. They should be installed in all rooms in the building, including the stores.

The installation of a fire extinguishing system will have to be considered taking into account both the consequences for the documents if the system is activated and the risks posed by the presence of the system and possible breakdowns (for example the presence of high-pressure water pipes in the stores).

In any case the structure of the stores should allow a fire in a store to be contained immediately. The separation between the stores and the administrative and public areas should ensure the protection of the stores in case of fire in the other rooms.

6.3 Theft

Analysis of the risk of theft should consider the commercial value of the cultural property preserved in the institution. The system of protection will have to cover the risks during working periods as much as the risks during closed periods.

Also in this case, it is vital to clearly separate the public and administrative areas from the stores, by light and functional passageways.

It is necessary to evaluate the risks from vandalism and attacks on the buildings, particularly for premises with outside access.

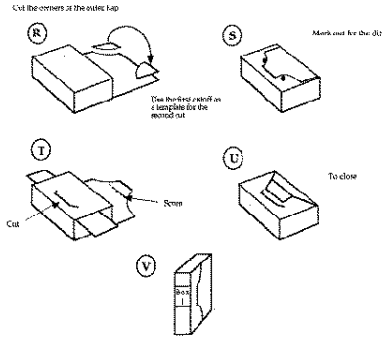
6.4 Emergency exits and help in case of disaster

The architectural design of the stores should take into account the requirements for emergency intervention in the stores in case of disaster. It should facilitate the rapid evacuation of books and documents if necessary, taking into account the type and quantity of documents preserved.

The emergency exits should be designed and located in such a way as not to interfere with the clear separation between different areas of the institution. Emergency exits for readers must not go through the stores and and should also avoid the administrative areas.

7. Shelving and other equipment

It is prudent to plan carefully the equipment that will be needed right from the building design stage. For shelving and other equipment, see the cited works by (among others) M. Duchein - pp 42-59 - and A. Giovannini - pp 358-381.



Magasins, Archives d'Etat et Bibliothèque cantonale de Bellinzona,Suisse.

Storage areas, State Archives and Cantonal Library in Bellinzona, Switzerland.

8. Conclusions et perspectives

L'architecte est soumis à une lourde responsabilité, celle de conjuguer l'aspect créatif de sa profession et l'insertion d'un bâtiment dans un cadre, c'est à dire de concilier l'aspect formel et monumental de la construction et l'aspect fonctionnel du bâtiment.

Ce travail est particulièrement difficile. Il arrive que des architectes résolvent ce conflit en considérant la fonction d'un bâtiment comme secondaire par rapport à sa dimension monumentale et à sa forme. Ces dernières sont il est vrai très importantes sur de nombreux plans, mais ne doivent pas intervertir l'ordre des priorités : un bâtiment est construit pour une fonction déterminée et doit en premier lieu répondre de manière adéquate à cette exigence. La prise en compte de cette affirmation rend d'autant plus difficile le travail de l'architecte, mais donne une valeur d'autant plus grande à ses créations réussies.

La construction de bibliothèques et d'archives est un domaine dans lequel la démarche scientifique de l'analyse critique des expériences précédentes est encore trop peu utilisée. Il n'est pas rare qu'un projet pour une nouvelle bibliothèque ou un nouveau dépôt d'archives se développe de façon presque autonome, en ne considérant que quelques exemples de constructions du même genre, et sans nécessairement être au fait des connaissances des défauts de ces constructions. Il arrive également qu'on répète les mêmes erreurs dans des bâtiments construits à peu de distance géographique ou temporelle.

Cette situation est due à un manque presque généralisé d'évaluation critique et ouverte des bâtiments construits, qui permettrait de thésauriser les bonnes et mauvaises expériences. La création d'un groupe de travail interdisciplinaire chargé de dresser des bilans de fonctionnement en matière d'architecture et de conservation de diverses constructions de bibliothèques et d'archives récentes, de les confronter et de les mettre à disposition pour de nouveaux projets serait un pas important vers l'application plus cohérente d'une mentalité scientifique à l'architecture moderne.

8. Conclusions and a look ahead

The architect has the heavy responsibility of bringing together the creative aspect of his profession with the siting of a building in its setting, that is to say reconciling the formal and monumental aspect of construction with the functional aspect of the building.

This is a particularly difficult task. It does happen that architects resolve this conflict by treating the function of a building as secondary to its monumental dimension and its form. It is true that the latter are very important in many respects, but the priorities should not be reversed: a building is constructed for a specified function and the first priority is that it should adequately meet that requirement. Taking this statement into account does make the architect's work difficult, but the value of his successful creations is all the greater for doing so.

The building of libraries and archives is an area in which the scientifc method of critical analysis of previous experience is still too little used. It is not uncommon to see a project for a new library or archive depository develop in an almost autonomous way, taking into account only a few examples of buildings of the same type and not necessarily with any awareness of the defects of these buildings. It also happens that the same mistakes are repeated in new buildings situated only a short distance from each other in time or space.

This situation is due to the general lack of the sort of open critical evaluation of completed buildings which would allow for accumulation of knowledge of successes and failures. The creation of an interdisciplinary working group responsible for studying and reporting on the functioning in terms of architecture and preservation of various recent library and archive buildings, and for comparing them and making the results available for new projects, would constitute an important step towards the more consistent application of a scientific approach to modern architecture.

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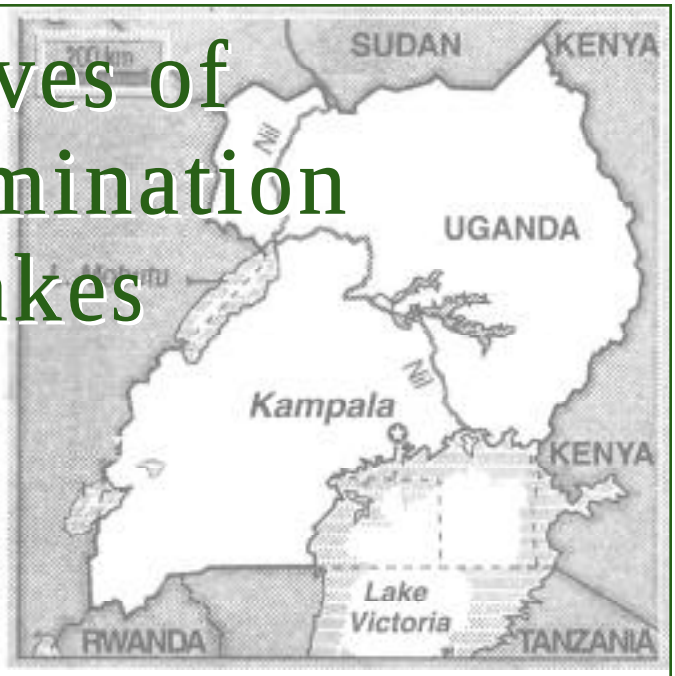
Die deutsche Version dieses Textes steht beim Autor zu Verfügung.

National Archives of Uganda: Determination Is All that it Takes



All the people who had been involved in the project of the development of the Records and Information Department - Ministry of the Public Service, Uganda - could have given up.
But, thanks to the determination of dedicated professionals, mishaps have been transformed into enriched learning, premises have been upgraded, new facilities set up.
A preservation consciousness has arisen. Jonathan Rhys-Lewis, consultant, relates this 3-year struggle.

In 1997, the Records and Information Management Department of the Ministry of Public Service, which has responsibility for the management of national records, put forward a proposal to DANIDA, the Danish aid agency, to sponsor furniture, equipment, materials and training for a proposed future building development.

DANIDA awarded this project to a consultancy firm based in Kampala, K2-Consult. They assessed the position, and realising that the proposed building (planned for the capital, Kampala) would probably not be completed within 2-3 years, decided that the focus had to be changed. The project was therefore re-defined to concentrate on the "preservation of decaying archives, supporting records management and storage at user level based on existing available space".

Revision of the project

Whilst significant work had been achieved by K2-Consult on the records management elements, I was brought into the project in March 1998 as a consultant. My task was to advise on the upgrading of storage accommodation and the development of a conservation workshop at the existing site of the National Archives, in Entebbe.

This first visit included preservation assessments of both a regional and a district record centre, and detailed work on the archive accommodation in Entebbe. An area within the strongrooms had been identified for the conservation workshop, and a plan of this space, including measurements, was drawn up. Further thought was given to the provision of services, equipment and material requirements.

A first-aid conservation workshop

On the completion of this first phase a report was compiled which outlined the findings, offered solutions and posed further questions. The report included a detailed specification for the workshop area, and the equipment and material resources to support it. Finally, the report detailed the type, and level of training for staff, both specialist and non-specialist.

One of the main themes that developed from the report was the need to review the original requirement for a conservation workshop. It was clear that the range and extent of the archives required a more immediate approach. An alternative workshop area was designed to enable a full programme of packaging and stabilisation activities to be carried out by a range of staff.

This decision also acknowledged that the practical training needed to address the core elements of preservation would be taught in the theory sessions. It was not possible, or desirable at this stage, to impart a level of skill that would encourage full conservation bench treatments. The full training of the conservator-designate would become a future goal for the archives.

Original wooden shelving were replaced with new metal ones

To this end, the layout of the workshop, and specifically the benching, was designed to enable a flow of work, from basic, simple repairs to tailor-made folders and encapsulation. The emphasis was focused away from the traditional conservation workshop, with large equipment and technology.

The workshop includes a board chopper, one nipping press, a stainless steel sink, a Rotatrim and scoring machine and a light box. The bench areas have ample storage and a range

Storages areas at the National Archives in Entebbe in 1998.


© Jonathan Rhys-Lewis

The newly designed first-aid conservation workshop.

Archives nationales d'Ouganda : de la détermination comme premier soutien

Nombreuses sont les mésaventures qui ont jalonné la restructuration des Archives nationales d'Ouganda, à Entebbe. Le projet initial consistait à réviser le bâtiment et les équipements abritant les archives du ministère du Service public, à Kampala, capitale d'Ouganda.
En raison de délais trop longs et d'incidents divers, le projet a dû être modifié et porter sur une évaluation des conditions de conservation des Archives nationales, assortie d'une formation du personnel à la préservation.
C'est en 1998 que Jonathan Rhys-Lewis, consultant, a été appelé pour identifier les priorités de conservation. Il a fallu revoir les espaces de conservation et prévoir un atelier de proximité pour le conditionnement et les petites réparations. La structure du bâtiment a été consolidée afin de le rendre imperméable aux invasions d'insectes et résistant aux sinistres (révision de l'installation électrique et sanitaire).
En 1999, la formation, avec les *Principes de préservation de l'IFLA* comme support de cours, a donné au personnel les moyens d'améliorer les conditions de conservation. Les travaux pratiques portaient sur le conditionnement et le contrôle climatique. L'intérêt de cette formation, associée à une restructuration des locaux, consistait à insuffler un esprit critique et autonome sans avoir à recourir aux techniques compliquées et coûteuses mais bien en exploitant les ressources locales en matières d'expertise et de fournitures.

of hand-tools; beakers and bowls are within easy reach. Hand-held atmospheric monitoring equipment was also provided.

At the time, it was also proposed that reprographic and micrographic facilities be established. Consequently, in February 1999, one of the Record Centre staff received a one-month internship in the reprographics department of London Metropolitan Archives (LMA). One of the archivists was selected to carry out a 3-month placement to study conservation techniques at LMA but unfortunately this was not possible in the initial timescale.

As a result of this delay, it was proposed to DANIDA that I should return to carry out a 4-week training course at the National Archives. In the intervening period the construction work on the conservation area and the remedial repairs to the building had been completed. All the original wooden shelving had been replaced with new metal shelving. As this required the removal of the archives, the whole area was re-decorated. Weak areas were consolidated (insect access etc.), electrical and lighting fixtures and water supply were upgraded.

It was during this period that the termite threat was dealt with. Large areas of the foundations were excavated and any termite mounds were dug up and destroyed. Weakened areas were either repaired or replaced and new concrete was secured around structural points.

The equipment and materials had also been ordered, mainly from UK suppliers and put into store ready for shipping. Unfortunately, the store was destroyed in a fire and the entire order had to be compiled again from the beginning. This caused the project to be delayed until November 1999. There was still one more problem.

Once the equipment and supplies had arrived in Uganda they could not be released until the value-added tax was paid. As this could take 4 - 6 weeks to process, and the total project was due to finish at the end of March 2000, a radical re-think was required.

The solution was to split the training into two 2-week blocks. The first would concentrate on preservation theory (for six participants) and the second would concentrate on the unpacking of the orders, establishing the workshop and carrying out one-to-one training in simple, first-aid conservation techniques.

Students were encouraged to think creatively about storage

The theory was carried out in December 1999, which also allowed final planning and assessment of the workshop area. Whilst the participants received formal lectures, the curriculum for this phase was designed to present the core themes of preservation to the students who included archivists, modern records and library staff.

Not only was it important for the students to understand and appreciate why the materials in their care deteriorate, but also that they should investigate how they can improve the situation. A selection of books were provided for the course (including IFLA-PAC's own Principles on the Care and Handling of Library Material) and the students made good use of these in answering two assigned surveys.

The first was a strongroom orientation exercise, which encouraged the students to think about the storage surroundings, risk assess them, and think creatively about possible solutions. It was during this session that the limitations of the building and the effects of the tropical climate were most clearly illustrated, especially by the dust levels and insect activity!

Regular cleaning within a programme of good housekeeping was established, and the windows were protected with a fine metal grill to reduce insect access. This project also provided an opportunity to calculate the number of


© Jonathan Rhys-Lewis

Storage areas at the National Archives in Entebbe in 2000.

boxes, identify material for destruction, and plan for (limited) future acquisitions.

Quarantine areas were identified

The second survey was an assessment of condition. Sections of time were included during the course to assess results and discuss the storage and conservation issues. This survey also reflected on the first, and enabled decisions to be made about where certain records should be stored. This further encouraged thoughts of quarantine areas for suspect material. Ultimately this information would be vital in establishing priorities and estimating the extent of the problems at the National Archives.

The students also had a visit to the Library at Makerere University in the capital, Kampala. At the library they were able to speak to colleagues and to see processes carried out in the bindery and reprographic departments.

The practical training finally took place at the end of February 2000 and concentrated on the elected "conservator". The programme enabled the opportunity to work closely together, unpacking the deliveries, setting up the equipment and solving the inevitable problems. Detailed training was undertaken on all packaging options (including encapsulation), exhibition preparation, heat-set tissue repairs (first aid), cleaning and testing methods. Atmospheric monitoring was covered in detail and a programme to record readings (and to identify trends) was implemented.

The building of the National Archives in Entebbe.

This period also included a 2-day orientation and familiarisation for the other participants from the first course, including the use of equipment and materials, atmospheric condition monitoring, packaging and folder making.

Self-help reliance is the key

The completion of the project required a final report and an operational manual organising and detailing the development of the conservation service and workshop operations. The report offered further guidance on future training requirements in conservation techniques.

The main emphasis of this project has been to establish an operational conservation and preservation workshop that can be used by a range of staff, for a range of activities. It was important that the workshop was not too specialised (or technologically-dependent) to enable it to be self-sustainable. Every effort was made to ensure that the momentum could be sustained for a period of 3 - 4 years (based on one full-time conservator), such as including spare parts and stockpiling packaging materials.

There was also the opportunity to investigate local expertise, especially with regard to workshop furniture and technical/electrical issues. This is clearly important for the future as a total reliance on overseas suppliers is ill-advised and self-help (with guidance) breeds a more cohesive understanding of the preservation ethos.

This project has been unique in some ways, most especially in enabling one consultant to see the process through from the beginning to the end. The National Archives has been transformed into a professional repository, with a fully equipped preservation workshop. The archives are boxed and numbered on steel shelving, and work has already started on computerised cataloguing.

Working closely with colleagues in Uganda has been a very rewarding experience and the establishment of this facility at the National Archives is a major boost for the cause of Preservation in East Africa.

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This paper has already been published in ACARM Newsletter, Issue 24, March 2000 in a modified version.

Archivos nacionales de Uganda : la determinación es el primer apoyo

Numerosas eran las desaventuras que marcaron la reconstrucción de los Archivos nacionales de Uganda a Entebbe. El proyecto inicial consistía en renovar el edificio y los equipos formando los archivos del ministerio del servicio publico en Kampala, el capital de Uganda. A causa de retrasos largos y de varios incidentes, el proyecto había tenido que ser modificado para encorporar una evaluación de condiciones de conservación de los archivos nacionales, junto con una formación del personal sobre la preservación. Fue en el año 1998 que se llamaron al señor Jonathan Rhys-Lewis, consultante, para indentificar las prioridades de conservación. El tuvo que visitar todos los espacios de conservación et prever un taller para el acondicionamiento y las pequeñas reparaciones. La estructura del edificio fue renovada con el meta de rendirla ambos impermeable a las invasiones de los insectos y resistente a los siniestros (renovación de la instalación eléctrica y de la instalación sanitaria).
En el año 1999 la formación del personal, con « Los Principios de la IFLA sobre la Preservación » como fundación del curso, dio al personal las medidas de mejorar las condiciones de conservación. Los trabajos practicos se referiron al acondicionamiento y al control climàtico. Esta formación era clave, junto con una renovación de los locales en insuflar un espíritu critical y autonomo en el personal por no tener que recurrir a técnicas de fuera, complicadas y costosas, pero mejor, para explotar los recursos locales en asuntos de informe y de abastecimiento.

Innsbruck Museum: The Most Important Thing Is Never to Give up

What is described here could have happened anywhere. A museum was flooded and that changed dramatically the feeling of Gerhard Tarmann, the curator, about his mission. His aim is now to turn shock into action and target it to those who need it most.

The courtyard of the museum had never been flooded for the last 483 years.

Many of us complain about decreasing funds and other various difficulties while living and working in very comfortable conditions. We need an exceptional event, a personal shock to wake us up and we all think subconsciously that such catastrophes could not happen to us. But catastrophes do happen, usually in an unexpected way and all of a sudden we become involved in them. Such a surprise shocked us in Innsbruck on August, 6th 1985.

A 500-century old museum

The "Tiroler Landesmuseum Ferdinandeum" lies in Innsbruck, the capital of Tirol. It was founded in 1823 as a 'national' museum for the region of Tirol, as was the way in the old Austro-Hungarian Empire. Over almost two centuries extensive collections of natural history, history and art have been built up and the museum has become an important documentation centre for the eastern central part of the European Alps.

The museum is housed in two buildings: the main one is situated in the centre of Innsbruck and holds collections in archaeology, history, music, art along with the main library. It also hosts a large exhibition hall. The second building, the former Arsenal of Emperor Maximilian I, was erected in 1502. The so-called "Tiroler Landeskundliche Museum" housed all natural history collections, collections of the history of technology and some of the historical collections, along with a permanent exhibition about the province of Tirol.

The flood happened early in the afternoon of August, 6th 1985. After two days of heavy rainfall the rivers in Tirol were no longer able to hold the excess of water which flooded wide areas of the country. Seven people died on this day. The River Sill, normally a brook running down from the Brenner Pass to Innsbruck where it joins the larger River Inn, brought enormous amounts of water into town and flooded parts of the city. The "Tiroler Landeskundliches Museum" was completely flooded. For 483 years the building had never been flooded and no-one had ever expected any danger.

80 % of the collections were stored in the basement

The flood happened without warning. It was about 1'30 pm when the water reached the museum building. It poured through the open entrance door but also came out of the ground in fountains from the drains. The volume of water and the power of the flood were so strong that it was impossible to plan immediately any organised rescue activities for the collections. Within a few seconds the huge courtyard of the building (40 x 70 m) was completely covered with water.

The water was flowing in a strong current from west to east and it was impossible to close the front door. The ground floor offices with parts of the collections were submerged a few minutes later, accompanied by an earthquake-like shaking and a sound of thunder that came from the mass of water falling against the basement windows, smashing them and filling the basement hall, where about 80% of the collections and parts of the library were stored.

At that moment the water had reached the central power supply in the basement and the whole electrical system of the museum was cut. The lights went out and the telephone system went dead. It was almost a miracle and the fact it was lunch time that not a single person was in the basement at that very moment: no-one could possibly have escaped from that flood. However, the exhibition halls on the ground and first floors were filled with visitors. Some of them panicked and tried to reach their flooded cars in the parking area in front of the building, but they were pushed back by the power of the water that had reached a depth of 1.15 meters at ground floor level.

The first reaction of the six staff members present was to rescue a handicapped colleague in a wheelchair from the water as he would have been drowned even at ground level. Two staff members were busy calming down the visitors and bringing them up to the first floor. One had to run for help.

The whole suburb was under water and everyone was calling for help. In a neighbouring building more than 100 cars were flooded in an underground car park. At ground floor level and in the basements all the houses were filled with water. Consequently, individuals and owners of stores, bars and restaurants were running around and it was very difficult to draw attention to the problems in the museum.

1600 drawers were carried up to the first floor

In the meantime the remaining three staff members tried to save parts of the famous Alpine Lepidoptera Collection that was situated in a room at ground floor level. The drawers had to be carried above one's head against the current and against floating pieces of furniture, books, papers, parts of uprooted trees and other pieces of wood. In order to bring the drawers with the insects up to the first floor it was necessary to travel a distance of about 40 m against the stream of icy water. In the first hours only staff members, supported by a few courageous museum visitors, tried to save as much of the valuable collection material as possible.

They managed to carry 1600 undamaged drawers up to the upper floor. At about 4'30 pm colleagues from other museums of Innsbruck, the fire brigade and slightly later, the first soldiers from the Austrian Army arrived. The visitors were rescued with rubber dinghies. The remaining parts of the collections and the library at ground floor level were brought up to the first floor but much of the material was already wet and muddy.

It was not until the morning of the next day that the level of the river decreased and the water dropped to ground level. It took three days to pump the water out from the basement. The scale of the catastrophe could then be gauged.

"We have no excuse not to protect our collections"

A catastrophe occurs and years of work, the life work of generations is destroyed, together with irreplaceable collections. Of course human life is a priority, but we, custodians of the collections, have to take initiatives to rescue and protect them - we have no excuse not to. We must fight for organising recovery and conservation activities. By doing so we give confidence and hope to future generations and our job is justified. But that requires good nerves.

However, good nerves alone are not sufficient. In Innsbruck, when the flood took place, we were able to save very important and invaluable material thanks to three main factors. First of all, one of our colleagues, a paper conservator who worked as a volunteer in the 1966 flood in Florence, proved very helpful. He knew that everything that can be deep frozen after a flood has a chance of being restored.

Then there was the spontaneous help of a large deep freezing company that allowed us to store more than 1 million wet and muddy specimens in their freezing facilities. Last but not least, we received international solidarity from colleagues the world over. This gave us enormous support. The journalists of the local, regional and international press were impressed and our government felt compelled to set up and finance a restoration programme that was scheduled over several years. That allowed us to start a new life.

Since 1985, restoration of the collections has been underway. Earth science collections, mammals and birds, conchylia and most parts of the insect collections are already restored. The completely drowned herbaria and parts of the library are still in a sterilized, dry but completely muddy condition, and their restoration will take us at least another ten years.

Innsbruck and Sarajevo are twin towns

Innsbruck's official twin town is Sarajevo. Both cities organised Olympic Games and both are the cultural centres of their regions. They have theatres, museums, exhibition centres and libraries. The "Zemaljski Muzej" in Sarajevo was founded in 1888 and was completely redesigned in 1913 with four neo-Renaissance buildings and a botanical garden, all especially designed to store the national collections of Bosnia-Herzegovina. For 100 years the museum has collected important ethnological, archaeological and natural history collections from the Balkans and has been the proud possessor of an excellent library.

During the war in Bosnia (1992-94) the "Zemaljski Muzej" stood only 100 metres away from the frontline that divided Sarajevo into two parts. Fighting took place with both light and heavy artillery. Snipers too were a steady danger for people on the streets who tried to reach their working places or to get some food in shops. The museum was hit by 60 grenades and several thousand bullets. Extensive destruction was caused by shellfire. Because of the missing roofs the building kept being damaged by water and snow.

However, most of the valuable bird collection of the Balkans gathered by Othmar Reiser was saved thanks to the untiring and unselfish dedication of brave and fearless individuals. One of these man is Svjetoslav Obratil, a very quiet, friendly and modest scientist who - together with the former director of the museum, Mr Rizo Sijaric, who died on duty during the shelling, and with other brave staff members - carried the collections down to the basement and kept moving them in order to avoid the firing.

© Gerhard Tamann

Visitors in a rubber dinghy rescued by the local fire brigade.

© Gerhard Tarmann

Gerhard Tarmann examining the rescued but muddy bird collection.

Six years after the war, anyone who sets foot in Sarajevo for the first time cannot but be bewildered and horrified and this despite the permanent international help. The facade of the "Zemaljski Muzej" has been provisionally restored and the roofs repaired, thanks to the help of NGOs from Sweden and Switzerland - amongst which Cultural Heritage without Borders, in Sweden - but if one looks more carefully at it, one can get a glimpse of the extent of the damage done by the attacks.

An international congress in Sarajevo in April 2001

Within the framework of an exchange programme for scientists, I had the opportunity to visit Sarajevo in 1998. During that visit was born the idea to organise an international congress in Sarajevo, a city-symbol of senseless destruction, desperate resurrection, great helplessness and incredible hope.

Because of the feeling of hopelessness I personally experienced during and after the flood in Innsbruck, I know the kind of desperate need for support, in terms of moral support to begin with, that our colleagues in Sarajevo are feeling.

This is the reason why it was decided to organise an international congress in the city of Sarajevo in April 2001. It is financed by the Austrian Ministry of Science, Education and Cultural Affairs, the Austrian Foreign Ministry, the International Aid Fund in Brussels, the Government of Tirol, the Austrian Society for Safety of Cultural Heritage, ICOM Austria and private sponsors.

The Bosnian Ministry of Culture is supporting the idea enthusiastically but cannot provide any money. The congress in organised jointly by the "Zemaljski Muzej" in Sarajevo and our "Tiroler Landesmuseum Ferdinandeum" in Innsbruck.

By gathering experts from cultural heritage institutions and other bodies specialising in the protection and conservation of cultural heritage, we hope to share our experiences of disasters, draw conclusions and discuss best practices in order to pave the way for future international prevention and solidarity activities (further details in Events on page 34).

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Le musée d'histoire naturelle d'Innsbruck ne baisse pas les bras

Les bâtiments abritant une partie du musée datent de 1502 et renferment les collections nationales d'histoire naturelle ainsi que le centre de documentation de la région centrale et orientale de l'Europe alpine.
C'est le 6 août 1985 que la Sill, la rivière qui rejoint l'autre rivière Inn, en crue depuis deux jours, inonde la ville sans prévenir, entraînant des morts dans son sillage. En trois heures, le sous-sol et le rez-de-chaussée du musée sont inondés: impossible d'improviser une stratégie de sauvetage. Il faut entraîner les visiteurs paniqués au premier étage où seront ensuite transportées les collections, dont la majorité sont conservées dans le sous-sol: il faut traverser quarante mètres d'eau glaciale encombrée d'arbres déracinés, meubles et autres débris pour transporter mille six cents tiroirs contenant des insectes. Le téléphone est coupé, l'électricité hors service. Les premiers secours, l'armée et les pompiers arrivent seulement trois heures plus tard. Il faudra ensuite trois jours pour évacuer l'eau des sous-sols.
Aujourd'hui la majeure partie des collections est sauvée grâce à un programme de restauration financé par l'Etat, mais dix ans sont encore nécessaires pour restaurer le reste.
C'est en 1998 que l'auteur de cet article, Gerhard Tarmann, découvre Sarajevo. La vue des dégâts suite à la guerre de Bosnie entre 1992 et 94 lui rappelle le choc et le sentiment d'impuissance éprouvés lors de l'inondation. Sarajevo, par ailleurs ville jumelée avec Innsbruck, est une ville dévastée. Les quelques collections patrimoniales restantes ont été épargnées par le personnel des musées au péril de leur vie. Cette ville et ses habitants ont besoin de soutien et d'encouragement. C'est pourquoi G. Tarmann a eu l'idée d'y organiser un congrès sur les sinistres afin de réunir les professionnels du monde entier autour de ces expériences douloureuses et de travailler à une meilleure prévention. Le congrès aura lieu en avril prochain (voir l'annonce dans la rubrique Events en page 34).

¿El museo de Innsbruck no se rende?

Los edificios han formado una parte del museo desde el año 1502 et contiene las colecciones nacionales de la historia naturál y encima el centro de documentación de la region central-oriental de la europa alpina.
Fue el día 6 de Agosto, 1985 cuando 'el Sill', el Rio que se une con el Rio Inn, después de 2 dias de Lluvias, subió y inundó la ciudád. Dentro de unas 3 horas, el sótano y la planta principal del museo estaban ambos inundados: resultaba imposible de 'improvisar' una estratégia de salvamento.
En primer lugar, fue necesario para trasladar todos los visitantes aterrorizados hasta la primera planta del museo y después para tratar a mover las colecciones hasta ahí también, la mayoria de las cuales fueron conservadas en el sótano, entre ellas unos 1600 cajones de insectos. Se tenían que llevarlos, por encima de la cabeza unos 40 metros de distancia en agua helado, lleno de arboles desarraigados, muebles y restos.
El teléfono fue cortado ; la electricidád, fuera del servicio. Los primeros socorros para llegar eran el ejército y los bomberos, pero solo llegaron 3 horas más tarde. Al final, no fueron capaces de evacuar el sótano por otros 3 días más.
Hoy día, la mayoría de las colecciones han sido salvada gracias a un programa de restoración financiado por el estado de Austria, pero hará falta otros 10 años para restorar las de más. El autór de este artículo, el señor Gerhard Tarmann, conservador del museo visitó Sarajevo en el año 1998, y no podía sino que conectar el choque y la impoténcia que sentia él durante la inundación del museo con lo que sentía el cuando vió el daño câusado por la guerra en Bôsnia entre los anos 1992 y 1994. Sarajevo, la ciudad'gemela' de Innsbruck es una ciudad devastada. Las pocas colecciones del patrimonio cultural que permanezcan han sido salvadas por el personal mismo del museo, y al riesgo de sus proprias vidas. Esta ciudad y sus habitantes necesitan ambos apoyo y ánimos. Es por eso que el señor Tarmann tuvo la idea de organizar el congreso, que tendrá lugar el próximo avril, sobre los sinestros con el meta de reunir profesionales de todo el mundo sobre la cuestión de estas dolorosas experiencias, y para trabajar juntos por mejora prevención (ver la página 34).

International Committee of the Blue Shield: What's New ?

New Blue Shield National Committee in the Netherlands

On June 28, 2000 Dutch archivists, librarians, curators and representatives from national heritage institutions and government gathered to attend the first symposium of the Blue Shield National Committee at the Koninklijke Bibliotheek in the Hague.
All four members of the Blue Shield were present, IFLA, ICA, ICOM, ICOMOS[1]. George Mackenzie, Deputy Secretary-General of ICA delivered the keynote speech. He reminded what the aims of ICBS and what the roles of ICBS national committees were: to promote awareness of disaster planning against all types of disasters; to encourage cooperation between institutions and professions; to dialogue with civil defence and military; to provide expertise and to raise awareness and funds.

A military representative of the Ministry of Defense explained that many Dutch soldiers are being sent out in the framework of UN Peace-keeping. They receive specialised training regarding the cultural aspects of the country or community they are going to stay with.
A representative of the Ministry of Education, Culture and Science gave a paper explaining the significance of The Hague Convention of 1954 and in particular the "Second Protocol" to this convention of 1999. She explained the structures for national disaster preparedness that are currently underway.

In order to illustrate the many facets of cultural heritage at risk, two interesting papers were presented on the practical side of all this. The one dealing with "Lost archives and libraries" told the sad story of war, fire and bombings. The other one highlighted the very sophisticated - and ever so practical - Disaster Plan in place at a castle in the little town of Amerongen, in the centre of the country, which is at the same time a monument and a museum.

Sjoerd Koopman - IFLA Coordinator of Professional Activities

Other National Blue Shield (BS) Initiatives

■ In Belgium, the BS National Committee was launched in November 1998 and welcomed 160 participants from the government, the civil defence, military and cultural heritage profession.
Belgium was the first country to set up a national BS Committee. The initiative came from the Museum of the Royal Bank of Belgium and laid stress on the need to better integrate the protection of cultural property in the list of action set up by the civil defence.

■ In Italy, Germany, Austria, Spain, Portugal, Switzerland, the initiative to create national committees for the protection of heritage came from the military. In Italy, unlike other national Red Cross committees, the "Croce Rossa italiana" has a department in charge of cultural property.

■ UKIRB is the name of the United Kingdom and Ireland Blue Shield committee that not only gathers archives, libraries, museums and the built heritage but also galleries. It will act as a focal point for local, regional, national and international initiatives promoting awareness of risks to cultural heritage. It intends to act as a unifying voice for lobbying governments and funders and to establish a pool of expertise to assist with disasters in the UK, Ireland and overseas. Contact Jane Fowler at the NPO <Jane.Fowler@bl.uk>.

■ In France, the Blue Shield national committee is finalising the draft of statutes, which seems to be a prerequisite in order to meet the French legislation requirements.
Exchange among heritage professionals and civil services such as fire departments and the military must be double-crossed: heritage professionals have to be better informed on prevention and rescue procedures. Local services must be briefed on the specifications required by all kinds all cultural property and the adequate measures to be adopted.

■ It seems that the ICBS symbol (specified in the 1954 Hague convention for marking cultural sites to give them protection from attack in the event of armed conflict) is used in museums, monuments and sites in Northern and Eastern Europe for the most part. Promoting wider use should be the role of all cultural heritage professionals.

Reconstruction of Libraries in Kosovo

Initiatives to begin the reconstruction of public libraries in the war-torn province of Kosovo were agreed at a recent meeting in The Hague.

Representatives of key players agreed on a plan of action, which would establish a network of mobile libraries throughout the country. 65 library buildings had been destroyed or severely damaged during the recent conflict. Following the recommendations of a recent report[2] on libraries in Kosovo, it was agreed that the quickest and most effective way to serve the needs of people, in the greatest number of communities, would be a mobile library and information service. The Open Society Institute in Kosovo, 'KFOS', has already ordered one vehicle. Two others are expected to be funded by donors, and sources for several more are currently being sought. All vehicles will provide Internet access. The United Nations' civil administration in Kosovo, UNMIK, has agreed to provide security for the service and to ensure its continuation after completion of the initial projects.

[1] IFLA: International Federation of Library Associations and Institutions
ICA: International Council on Archives
ICOM: International Council of Museums
ICOMOS: International Council on Monuments and Sites

[2] Libraries in Kosovo/Kosova: a general assessment and a short and medium-term development plan is the report by Carsten Frederiksen and Frode Baken, of a mission undertaken by them on the behalf of UNESCO, the Council of Europe and IFLA Freedom of Access to Information and Freedom of Expression (FAIFE) Office. Copies are available from IFLA/FAIFE Office: Islands Brygge 37, DK 2300, COPENHAGEN S. Denmark. Tel: +45 33 66 46 27/37, Fax: +45 33 66 70 64, < www.faife.dk>.

The 5-minute Phase Box

Comment fabriquer une boîte en cinq minutes ?

Five minutes is all that it takes to make a protective enclosure wherever mass box manufacture facilities cannot be set up. A cheap and useful method for protecting documents is described step by step.

Il ne faut pas plus de cinq minutes pour fabriquer soi-même une boîte de protection pour les documents de bibliothèque. Voici enfin une méthode pratique et économique, idéale pour les structures qui ne peuvent pas investir dans du matériel coûteux. Toutes les étapes de fabrication vous sont présentées ici avec des schémas explicites.

Simple boxes for the protection of library materials have become an important tool for the conservator for many reasons. They protect books from fire and moderate water damage. They can be used as first aid in library disaster, and they also protect books from wear and tear.

Library fires develop in many different ways depending on the fire suppression system, early response by fire authorities, etc. Small differences in temperature can separate a moderate damage from a major one, and boxes can be very effective in preventing or delaying fire damage. Books not immediately threatened by fire are given a good protection against soot.

Libraries that have suffered from fire damage often have difficulties in rebuilding and recovering routine functions. A conservation programme may have to take second place to rebuilding the library. A quick method for protecting books can help postpone more comprehensive conservation programmes that for practical reasons cannot be carried out immediately. They are an alternative to immediate repair in library conservation routines.

Once damage has occurred, it may be difficult to foresee which books will be most heavily used in the future. As conservation costs are very high, one has to prioritise which books that are likely to be circulated, and has to be able to protect non-repaired ones from the loss of information. Boxing is a method that gives immediate protection to a damaged book, while at the same time indicates that the book may need further repair before use.

Usefulness

Boxes also help assess normal usage**.** One of the most difficult issues in conservation is to assess the nature of damage inflicted on objects by daily use. Conservators often have to treat objects that are already too damaged because they have so few indicators for assessing the process of breakdown, thus hindering them to treat the objects before deterioration has gone too far. Packing an

Les boîtes de protection ordinaires des documents (appelées « phase boxes » dans les pays anglo-saxons) sont devenues des outils de premier ordre pour les restaurateurs. Elles protègent les livres en cas d'incendie et plus partiellement, en cas de dégâts des eaux. Elles font office de premiers soins après un sinistre. Elles protègent aussi les livres contre l'usure.

Un incendie dans une bibliothèque se propage de différentes manières. Cela dépend du système d'extinction existant mais aussi de la rapidité d'intervention des pompiers. Des différences infimes de température peuvent être la cause de dégâts minimes ou importants. Les boîtes évitent ou retardent les dégâts causés par un incendie de façon très efficace. Les livres qui ne sont pas immédiatement menacés par le feu sont néanmoins protégés de la suie.

Les bibliothèques victimes d'un incendie ont souvent du mal à recouvrer leurs activités routinières. Lors de la phase de reconstruction, la mise en place d'un programme de restauration est parfois reléguée au second plan pour maintes raisons pratiques. Les boîtes offrent une méthode rapide de protection pour les livres en attente d'une restauration. De la même manière, elles sont une alternative aux travaux quotidiens du restaurateur.

Une fois le sinistre terminé, il peut être difficile de prévoir quels seront les livres les plus consultés. Les coûts de restauration étant très élevés, il faut accorder une priorité aux livres susceptibles d'être remis en circulation et protéger les autres du risque de perte d'informations. Les boîtes offrent une protection immédiate aux livres endommagés tout en indiquant qu'ils doivent être restaurés avant consultation.

Intérêt pratique

Les boîtes permettent aussi d'évaluer la fréquence de consultation des documents. En effet, un des plus gros problèmes en restauration consiste à évaluer la nature des dommages infligés par la consultation quotidienne. Les restaurateurs doivent souvent traiter des documents déjà très endommagés parce qu'ils manquent d'indicateurs permettant d'évaluer le processus de détérioration. Ils

item is a crude way of letting most of the wear and tear hit the packaging material rather than the object inside, and it is easier to detect the items that are most frequently handled.

This is also a good reason for using white boxes, as they give a quicker indication of wear and tear than a box made in a darker shade. It may seem an aesthetical disadvantage making boxes liable to get dirty, but from a technical point of view they are better. This indication of use is also economical.

Economy

If a totally or partially boxed collection has been in use for a couple of years, there may be little reason to treat the books in the cleaner boxes, but rather concentrate resources on the items in worn and dirty boxes.

I will give an example. A map at the University Library of Uppsala was sewn between two sheets of Mylar several years ago. Five years later, the map was taken out of its enclosure and the plastic itself was examined under raking light. We were astonished to find so many scratches and stains on the Mylar and also convinced that we were looking at a normal wear and tear process suddenly made visible by the packaging of the object. This is actually a field of research in conservation that needs more attention.

As the title of this article implies it is possible to cut out a box in five minutes having it ready folded with the book inside (4.53 is the record). Five minutes can hardly be maintained for any longer time, but 6 - 8 boxes per hour can be produced, which makes it theoretically possible for a worker to produce 50 - 60 boxes per day, 250 - 300 boxes per week or 1000 - 1200 boxes per month.

Speed is of course related to many other factors, but the pure processing time is so short that serious comparisons to machine costs can be made. The main advantage is of course that machine investments will not be necessary, which might suit a small workshop or a private conservator working only occasionally with phase boxes, in environments where machine production cannot be maintained, or where machine investments cannot be justified for other reasons.

Box construction

Several types of enclosures are used at the Uppsala University Library: Melinex for sheet materials, shrink wrapping for circulating books in need of repair, drop-back boxes for important materials and 4-flap phase boxes. In our efforts to develop a more comprehensive boxing programme for certain collections, a more efficient phase box than the 4-flap was needed. A box making machine has been considered, but while investigating this option, the adaptation of a normal die-cut design to a manual technique has been so successful that this box, called a "5-minute box" has been included in the library's boxing programme. The working procedure is as follows.

n'ont donc pas les moyens d'intervenir sur les documents avant que les dégâts ne deviennent trop importants.

Ranger un document dans une boîte est une méthode rudimentaire mais qui permet à l'usure de s'activer sur la boîte plutôt que sur le document. On peut ainsi détecter quels sont les documents les plus fréquemment manipulés. Il est d'ailleurs judicieux d'utiliser des boîtes blanches qui indiquent plus rapidement le niveau d'usure que les boîtes de couleur sombre. Ce qui peut sembler être un inconvénient esthétique au premier abord (car les boîtes sont susceptibles de se salir très rapidement) se révèle très pratique d'un point de vue technique et même d'un point de vue économique.

Intérêt économique

En effet, si une collection entièrement ou partiellement mise sous boîte a été fréquemment consultée pendant plusieurs années, il est inutile de ranger les livres dans des boîtes plus propres. Mieux vaut engager des frais pour restaurer les documents qu'elles renferment.

L'exemple suivant éclairera mon propos. A la Bibliothèque de l'Université d'Uppsala, une carte géographique a été cousue entre deux feuilles de Mylar. Cinq ans plus tard, la carte a été décousue et nous avons observé le plastique à la lumière. Nous avons été stupéfaits de constater la présence de nombreuses taches et égratignures sur le Mylar. Nous pensons qu'il s'agit d'un processus normal d'usure mis en évidence par l'emballage. C'est un sujet de recherche qui mérite plus d'attention.

Comme l'indique le titre de cet article, il suffit de cinq minutes pour découper une boîte et la replier avec le livre à l'intérieur (le record est de 4 min et 53 s). Ce délai peut être difficile à maintenir montre en main, mais on peut facilement confectionner six à huit boîtes en une heure, ce qui permet théoriquement de fabriquer cinquante à soixante boîtes par jour, deux cent cinquante à trois cents boîtes par semaine et entre mille et mille deux cents boîtes par mois.

La rapidité d'exécution dépend bien sûr de plusieurs facteurs mais le temps réel de fabrication est suffisamment court pour défier toute concurrence avec des coûts de fabrication industrielle, l'avantage étant de ne pas investir dans des machines coûteuses. C'est une solution idéale pour un petit atelier de restauration ou un restaurateur privé qui fabrique des boîtes occasionnellement. Cette méthode convient parfaitement aux petites structures qui ne peuvent financer les coûts de production industrielle ou bien lorsque l'investissement dans des machines ne se justifie pas.

Méthode de fabrication

Plusieurs types de conditionnement sont utilisés à la Bibliothèque universitaire d'Uppsala : le Melinex pour les documents en feuille, l'emballage sous plastique pour les livres en circulation en attente de réparation, les boîtes-tiroirs pour les documents importants et les boîtes à quatre rabats. Lorsque nous avons voulu étendre notre programme de conditionnement à certaines collections, il nous est apparu nécessaire de trouver une boîte plus efficace que celle à quatre rabats. Nous envisagions d'acheter une machine à fabriquer des boîtes mais nous avons parallèlement adapté une technique manuelle réalisée à partir d'une matrice. Cette méthode s'est révélée tellement efficace que nous l'avons intégrée dans le programme de conditionnement de la bibliothèque. Il s'agit de « la boîte faite en cinq minutes » fabriquée comme suit.

Tools needed

• A T- square, preferably with a notch in the base that enables the knife to cut the whole length of the ruler. (The normal use of such a tool is for cutting glass).
• A snap-off blade utility knife
• A pair of dividers
• A bone folder
• A short steel ruler
• A cutting-mat as a working surface
• A small cutting-mat or piece of thick cardboard
• A pen or pencil for marking up
• Corrugated acid-free board that can be scored and folded easily, approximately 1 - 2 mm thick. A thicker board needs more measuring to compensate for the board thickness, and as this will take more time, the advantage of a fast processing will be lost. The board should be of a quality that meets the requirements of the pending ISO CD 16245 standard. "Information and documentation - Archive boxes and file covers for paper and parchment documents". The standard is still under voting according to ISO rules, but will be published in due time.

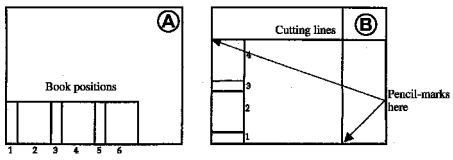
Outils nécessaires

• Une équerre avec un cran à la base pour permette au cutter de couper sur toute la longueur de la règle. (On utilise normalement ce genre d'outil pour la découpe du verre)
• Un cutter
• Un compas à pointes sèches
• Un plioir en os
• Une petite règle métallique
• Un sous-main comme support de travail
• Un petit sous-main ou un morceau de carton épais
• Un stylo ou crayon pour tracer les pointillés
• Une planche de carton ondulé non-acide que l'on peut facilement marquer au crayon et plier, d'un à deux millimètres d'épaisseur. Un carton plus épais nécessiterait plus de prises de mesures pour compenser l'épaisseur du carton, ce qui prendrait plus de temps et serait donc moins avantageux. Le carton doit correspondre à la norme ISO CD16245 qui est sur le point de paraître : *« Information and documentation – Archive boxes and file covers for paper and parchment documents »*. La norme est actuellement en cours de vote selon le protocole de l'ISO mais sera publiée en bonne et due forme.

The box is cut as shown in the diagrams below.

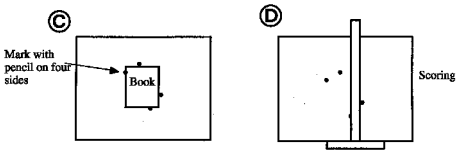
Coupez la boîte selon les schémas ci-dessous.

Ⓐ The measuring is done directly on the board which is placed on the cutting surface. Take the book and put it spine down on the down-left corner of the board. This position is N° 1. Turn the book over to the back board, the front edge, the front board, the spine and finally the back board again which is the position N° 6. Mark with a pencil.



Ⓐ On mesure directement sur le carton posé sur le sous-main. Prenez le livre et posez le, le dos sur l'angle inférieur gauche de la planche. C'est la position n°1. Tournez le livre vers la droite et couchez-le sur le plat, la tranche, l'autre plat et enfin le dos. C'est la position n°6. Tracez un trait le long de la position n°6.

Ⓑ Stand the book at position N° 1 and turn it upwards until it reaches position 4 which is marked by a pencil. Cut the board.

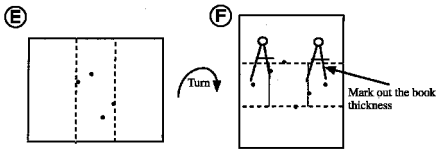


Ⓑ Posez le livre en position n°1 et tournez-le vers le haut jusqu'à ce qu'il atteigne la position n°4. Tracez un trait le long de la position n°4. Découpez le carton le long des traits marqués en Ⓐ et Ⓑ.

Ⓒ Position the book in the middle of the board and put a pencil-mark on four sides (at the broadest point if the book is uneven).

Ⓒ Placez le livre au centre du carton et faites une marque au crayon pour indiquer où sont les 4 côtés (à l'endroit le plus large si le livre n'est pas uniforme).

Ⓓ, Ⓔ Score the whole length of the board at the markings with the help of a T-square.

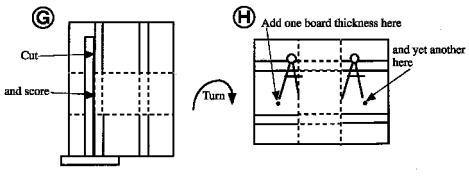


Ⓓ, Ⓔ A l'aide de l'équerre, tracer des pointillés sur toute la longueur du carton au niveau de chaque marque faite en Ⓒ.

Ⓕ Turn the board. Measure the thickness of the book with a pair of callipers. Transfer this measure to the board as shown.

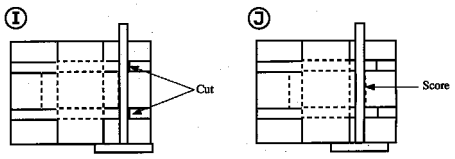
Ⓕ Tournez le carton. Mesurez l'épaisseur du livre à l'aide d'un compas. Reportez la mesure sur le carton comme il est indiqué sur le schéma.

Ⓖ Cut and score the board.

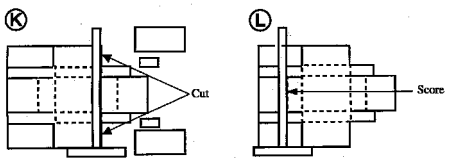


Ⓖ Découpez et tracez des pointillés sur le carton.

Ⓗ Turn the board once again. Take the pair of callipers and add one board thickness. (Widen the points 1 to 2 mm.) Mark the board to the left as shown, add another board-thickness and then mark on the right side.

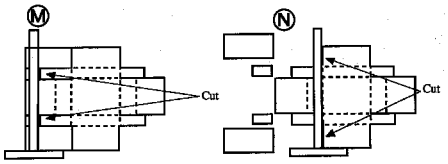


Ⓘ-Ⓞ Cut and score as shown. The cut shown at I can be measured out or just estimated, which is quicker. The flaps should not meet when the box is folded. Ⓞ shows the board after scoring and cutting.

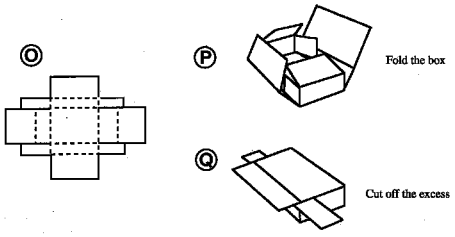


Ⓟ Fold the box as shown with the book inside.

Ⓠ Put a piece of cardboard under the flaps and cut off excess material (if any). Make sure that the cardboard is longer than the box. The protruding edges of the cardboard is a guarantee that the cardboard is there to protect the book from the knife. Take care to always change the cardboard when it is getting worn.

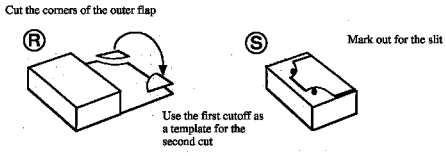


Ⓡ Fold out the outer flap to the cutting mat and cut off one corner as shown. Turn the cut-off upside down and use as a template for the second corner. This ensures that the flap will always be centred.



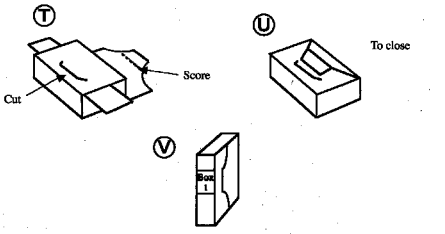
Ⓢ Fold up the flap again and mark out for the slit with 2 pencil-dots on each side of the flap.

Ⓣ Insert the protective piece of cardboard again and cut out the slit with 3 cuts as shown. Score the flap.



Ⓤ Close the box.

Ⓥ The spine of the book is shown here. The book is more easily shelved with the flap in this position, and the slit may be used as a grip when taking the book out of the shelf.



Ⓗ Tournez le carton encore une fois. Prenez le compas et rajoutez une épaisseur (élargissez les points de 1 à 2 mm.) Faites une marque sur le carton à gauche comme indiqué, ajoutez une autre épaisseur de compas, puis faites une marque à droite.

Ⓘ, Ⓞ Découpez et tracez des pointillés comme indiqué. On peut mesurer ou simplement évaluer la découpe présentée au point Ⓘ, ce qui est plus rapide. Les rabats ne doivent pas se toucher une fois la boîte pliée. Le schéma Ⓞ montre le carton après avoir été tracé en pointillés et découpé.

Ⓟ Pliez la boîte avec le livre à l'intérieur comme indiqué.

Ⓠ Placez un morceau de carton sous les rabats et découpez ce qui dépasse. Assurez-vous que le carton soit plus long que la boîte. Les bords du carton qui dépassent permettent de s'assurer que le carton protège le livre du cutter. Prenez soin de bien changer de carton dès qu'il commence à s'user.

Ⓡ Repliez le rabat extérieur sous le sous-main et découpez un angle comme indiqué. Retournez l'angle découpé sur lui-même et utilisez-le comme patron pour le deuxième angle. Cela permet de toujours bien centrer le rabat.

Ⓢ Pliez à nouveau le rabat et indiquez au crayon l'emplacement de la fente en traçant 2 points de chaque côté du rabat.

Ⓣ Insérez le morceau de carton protecteur de nouveau et découpez la fente en 3 coups de cutter comme indiqué. Tracez des pointillés le long du rabat.

Ⓤ Fermez la boîte.

Ⓥ On voit ici le dos du livre. Il est plus facile de ranger le livre sur une étagère avec le rabat dans cette position. On peut se servir de la fente pour attraper le livre.

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EUROPE

Success for symposium on Managing the preservation of periodicals and newspapers

The symposium organised by IFLA-PAC, the Section on Conservation and the Round Table on Newspapers that took place last August at the Bibliothèque nationale de France in Paris gathered 180 delegates from 40 countries.

➢ Very lively was the round table that took place on Tuesday 22nd August. Debate addressed the following issues:

Should we continue to preserve the paper artifact of a serial or newspaper once we reformat it in microfilm or electronically ?

The audience answered an eager yes.

Those who would throw them off argued that it is uneconomical to keep both the original and the duplicated format libraries would become unmanageable in the long run; digitisation offers easier access for customers unlike papers artifacts; climate in tropical countries is dramatic to newspapers and countries in Asia and Africa should jump to technical progress.

On the other hand, other librarians think that newspapers are part of mankind's heritage and are important as far as their manufacture, format are concerned; it is the mission of national libraries to preserve originals; microfilms are deteriorating and new ones should be made after the originals; digitisation needs good originals rather than second-rate microfilms. Shared preservation is one way to address the issue: it allows selection by making an ideal copy (through compiling regional editions for instance).

Criteria about selection should be provided by IFLA.

Can we confidently use the electronic version of a serial or newspaper as a preservation medium?

The answer from the audience was no because of the obsolescence of new technologies that makes CD products unreliable; emulation and migration are expensive and we still don't know how best to preserve digital information; microfilms are the safest and simplest carriers; filming apparatus can always be improved.

On the other hand, some argued that all libraries are running out of space and they must resort to digitisation as prices will drop; customers will have the choice where, when and in what format they will access documents; because of the exponential rate of paper deterioration we can but trust digitisation, especially as we know how to preserve digital information.

Should publishers be responsible for preserving their publications (be they print or electronic)?

Most of the audience felt that it was the responsibility of the libraries that are equipped for that, whereas publishers have never done so and will not do so without good economical reasons.

However, some publishers in USA, such as Elsevier, or in Australia - where the PANDORA project has allowed publishers to catch their Internet size for a definite period and maintain them - have taken up the responsibility. Most publishers are not willing to archive both electronic materials and the software. However, some of them are quite prepared to discuss the issue with libraries.

Librarians agreed that legislation for electronic format was needed.

With more and more users finding what they want on the Web, are traditional union catalogues of serials necessary?

The answer was a roaring yes. Although research method are changing, union catalogues are best fitted to record information as long as we are in a hardware context and a minority of people (users and librarians) keep using them.

➢ The outcome of the symposium was a project on the preservation of newspapers in Africa. The first step that can involve African institutions at no cost is to assess newspaper collections. Cooperation will be set up between IFLA-PAC and the Round Table on Newspapers. IFLA-JICPA, Division 8 and the Section on serials should join next year a IFLA Conference on Boston to present the project.

➢ The proceedings will be published by IFLA-PAC by the end of 2

➢ Meanwhile papers can be accessed from IFLANET <http://www.ifla.org/VI/4/pac.htm#8>

LATIN AMERICA AND THE CARIBBEAN

For a better information policy at the PAC Centre in Caracas

The Regional Centre in Caracas is transforming its mailing list of subscribers into a database of Caribbean and Latin Amer institutions in order to have a comprehensive knowledge of the spe needs of each, to coordinate common training and better institutions' requirements for information and professional suppo questionnaire has been sent. Any institution that has not received i would like to be added on the database should contact Aurelio Alv fax: + 58 2 941 4070, <dservtec@bnv.bib.ve>.

Standards pending in Venezuela

The National Library of Venezuela is involved in the creation of stanc in the information field. The approval of all Venezuelan stanc depends on FONDONORMA (Fund for Standardization and Qu Certification), whose activities were suspended in 1998 due to the pol changes Venezuela is going through. For this reason the publication c standard on the manufacture of permanent paper is still pending.

A Spanish-English conservation glossary to be released

Ramon Sanchez and Solange Hernandez from the National Libra Venezuela are preparing a glossary of terms related to paper preserv and conservation. This bilingual glossary will include approximatel terms with definitions in Spanish and their equivalent in English.

Chile: preservation courses over the country

Courses in preservation have been implemented all over the country thanks to funds from the Mellon Foundation. *IFLA Principles for the and Handling of Library Materials* are used as reference documentatio

Principios para el Cuidado y Manejo de Material de Bibliotecas de la IFLA

IFLA Principles for the Care and Handling of Library Materials has translated into Spanish by El Centro nacional de conservación y resta ción de Santiago de Chile. Please contact Magdalena Krebs, fax: + 56 0252 for a free copy <http://www.dibam.cl>.

EASTERN EUROPE AND THE CIS

Russian translation of NEDCC's Preservation Manual online

Preservation of Library and Archival Materials: A Manual by the Nort Document Conservation Center (NEDCC) in Andover (Mss, USA been translated into Russian by the Guild of Restorers of St. Peters and is now available online at NEDCC Web site <www.nedcc.org>

National preservation programme in Russia

In July 2000, Russia has agreed on a national preservation prograr The PAC Regional Centre at the Library for Foreign Literatu contributing to it by assisting in the distribution free of charge of dom acid free cardboard among Russian and CIS libraries.

Fund raising for a film on minor repairs

As minor repairs seem to be of major importance to all types of libr the Regional Centre has written the scenario of a training video fil minor repairs. The Centre is now looking for funding the shooting.

A

deacidification at the National Diet Library

ut 3,000 extra copies of Japanese books from the NDL collection experimentally deacidified with a gaseous phase DAE (dry ionia ethylene oxide) method at the facilities of Nippon Filing Co., last February. Deterioration is supposed to slow by a factor 3 to 5 s. Tearing resistance tests showed that after treatment the papers d 5 to 7 times longer. The average pH value rose from 5.5 to 9.2. vbacks are the following: smell persisted after treatment and papers ted slightly yellowish.

EANIA AND SOUTHEAST ASIA

h East Asian Consortium for Access and Preservation - SEACAP

February 2000, the Chiang Mai University Library convened an national Meeting on Microform Preservation and Conservation tices in Southeast Asia, with the support of the Japan Foundation Center and the Ford Foundation. The meeting decided upon a on statement, objectives, and short-, medium- and long-term action da, which have been termed the "Chiang Mai Declaration".

meeting resolved to establish the South East Asian Consortium for ss and Preservation, or SEACAP, to encourage, develop, facilitate support collaboration among libraries, archives, and other concerned utions and individuals in order to preserve and provide access to the ished and documentary heritage of the region.

t-term goals include: setting up a Web site, establishing a listserv ission group and publishing and disseminating information about xistence of SEACAP. Initial projects also include securing funding an advanced internship programme in preservation at Cornell ersity Library and seeking ways to create a database of microform ers produced in the region.

creation of SEACAP is an important initiative for the region. A more led article about SEACAP and an update of activities will be publi- in *IPN 24*. For further information, please contact the SEACAP r, Dr. Rujaya Abhakorn at <rujaya@cmu.chiangmai.ac.th>.

news from NLA

nuary 2000, the responsibility for the Southeast Asia and Oceania nal IFLA-PAC centre was transferred to the National & national Preservation Activities section of Preservation Services in the National Library of Australia (NLA). The new Director of egional centre is Mr Colin Webb. Colin is assisted with IFLA-PAC ities by Dr Hilary Berthon and Ms Jennifer Anderson. Jennifer d the NLA in April this year and is very interested in hearing from ne who would like to contribute to, or hear about IFLA-PAC ities in the region <janderson@nla.gov.au>.

entive Conservation training in Myanmar

Colin Pearson, Co-director Cultural Heritage Research Centre, ersity of Canberra, visited the University of Yangon in Myanmar ma) in January 2000. During the visit Colin presented a 2-day shop on the care of cultural collections (preventive conservation) for Universities Historical Research Centre. This centre serves as a nal centre for research on Myanmar history. Working closely with Myanmar Historical Commission, it collects historical source rial; researches Myanmar's history; and publishes historical research s. Participants at the workshop included staff from the Universities orical Research Centre, the National Library, Archives and Museum yanmar and local historical organisations.

On-line preservation course no longer offered

The University of New South Wales Continuing Education Department is no longer offering their 'Preservation Management for Libraries and Archives' distance education course that commenced in 1997. However, the BISA Preservation and Conservation course will be offered in January - February 2001. This is a 4-week course which consists of formal lectures, informal discussion groups, visual presentations, laboratory exercises, and site visits. For further information please contact Maureen Henninger at tel: + 61-2 9385-7128, fax: + 61-2 9662-4061, <M.Henninger@unsw.edu.au>.

Cellulose Acetate Project

The National Library of Australia has embarked on a new project that will examine the problem posed by deteriorating cellulose acetate collections. The project will scope the extent of the problem nationally and plans to use this information to develop recommendations for cost-effective national action.

International Digital Archiving Collaboration

This is a formal consultation programme led by the National Library of Australia in collaboration with the Library of Congress, the British Library, National Libraries of Canada, Germany, Sweden, Norway and Finland, together with the CEDARS project, the Digital Library Federation and Research Library Group. The aim of the group is to discuss digital archiving and preservation issues and to devise ways of sharing information and developmental work. Recent work has focused on persistent identification of online publications.

Digital Preservation Research Agenda Working Group

The Digital Preservation Research Agenda Working Group was formed out of an agreement between the National Library of Australia and the State and Territory Libraries to work cooperatively to find answer to digital preservation problems. Coordinated by the National Library, the agenda has focused largely on preservation metadata issues and on distributing information on approaches to transferring data from less stable to more stable carriers.

Australian Cooperative Digitisation Project

This is a joint project between the University of Sydney Libraries, the State Library of New South Wales and the National Library of Australia. The aim is to make digital copies of all Australian serials and fiction monographs first published between 1840 and 1845 for preservation and access purposes.

PADI (Preserving Access to Digital Information)

The PADI web site is a clearing house for information and research about digital preservation issues, confronting the library, archive, museum, information technology and research sectors. The site collects information on both Australian and international development in this area. You can visit PADI at <http://www.nla.gov.au/padi/>

UNESCO regional workshop on the creation of Southeast Asia Web

The workshop took place in October 1999 in Kuala Lumpur at the National Library of Malaysia. It was organised in the framework of the Memory of the World (MOW) programme and aimed to document and preserve the regional cultural heritage using new technologies, create a Web site according to standards, provide global access to documentary heritage of Southeast Asia, and support MOW in the region.

A prototype Web site on documentary heritage for each participating country was created. Participants were encouraged and expected to improve and enhance it with added relevant information, graphics and music. The improved Web sites will be linked to UNESCO's web of the Asia/Pacific Regional committee hosted by the Secretariat of MOW Malaysian National Committee.

Library of Congress Plans for Digital Future

The Library of Congress is developing a comprehensive digital future plan that will complement and build upon the traditional services it offers. Several years ago the Library embarked on a planning process to map out how best to incorporate digital tools into the mainstream of services. While some of these lend themselves to the integration of digital resources, several, including preservation, are areas where approaches to digital capture, storage and retrieval are being considered for the first time.

While scanning books, manuscripts and photographs in small groups for access purposes is not a particularly new sight today in libraries and archives, what seems to be missing from most of these efforts is a cohesive plan that ensures that those materials scanned will be available in the future, after the capture technology has disappeared or the media itself has perished. An astonishing lack of standards to drive long-term preservation efforts of both 'born digital' and 'reborn' digital objects poses a vexing problem for conservators and archivists of digital information. Lacking standard protocols for preserving digital assets, library and museum administrators are hard pressed to commit resources for their maintenance and compelled by market forces to take action.

Recognizing this dilemma, the Library of Congress began to plan in earnest several years back to develop an infrastructure to support the digital future. This effort was prompted in part by two projects that were in various stages of development: the National Digital Library's American Memory Project, and the creation of the Library's National Audio-Visual Conservation Centre. American Memory (http://memory.loc.gov/) is an effort to digitise and deliver electronically the distinctive, historical Americana holdings at the Library of Congress.

A state of the art conservation centre for audio-visual collections

One of several National Digital Library projects, American Memory is a robust and easily accessed group of more than 70 major collections of digitised documents, manuscripts, books, photographs, recorded sound, moving images, and text. Drawn broadly from materials held in the Library's custodial divisions, American Memory provides a panoramic glimpse of some of the treasures found in the LC collections. The National Digital Library was initially conceived as a project that would demonstrate how digital technology might be used to expand access to research materials housed at the Library. As the project nears completion, the Library is challenged to develop a means for integrating this important work into its mainstream operations.

A second, but equally ambitious project that is defining the Library's digital future is the development of a state-of-the-art conservation centre for its audio-visual collections. Located in Culpeper, Virginia and situated in a renovated high-security complex once occupied by the Federal Reserve Bank, the new facility scheduled to open in 2003 will feature tightly controlled environmental storage conditions, unitized collection packaging, and restoration laboratories that will provide excellent archival storage for sound and moving image collections. Charting completely new territory with regard to how sound and images are usually served to researchers, the new facility will incorporate a digitisation on demand function that sends bit streams of data back to reading rooms in the Library's Capitol Hill complex some 200 miles away. Necessarily, as part of planning this enterprise, the Library is looking not only at how best to capture data from a mind-boggling array of carriers that range from wire recordings to obsolete 2-inch quad videotapes, but also, and perhaps more pressing for all cultural institutions who digitise, how best to address intellectual property and copyright issues for digitised information. Investigations into the longevity of media are also in progress that will lead to the establishment of life expectancies for sound and moving image carriers.

Library staff and external bodies are consulted

Thinking strategically about the elements that will integrate electronic resources into the Library's collections and services, the Library is engaged in directing an array of important projects that focus on content, access services, and building a strong technology foundation. Projects addressing these areas include creation of a digital reference service, a scan-on-demand document delivery service for print materials, strategies for incorporating 'born digital' materials into the collections, and development of cataloging procedures and finding aids for electronic resources.

The new position of Director for Electronic Resources has been created. One of the many challenges of this position will be to effectively coordinate digital activities that exist throughout the library while charting a new strategic course that consolidates current effort and directs it toward meeting future goals and objectives. Defining these new goals and objectives has been the source of much discussion at all levels within the library. With digital tools, the ability to provide 24-hour reference service to a wide cross section of patrons becomes a possibility for the first time. Using web trends as a point of departure, end users will expect to tailor their information retrieval needs with increasing precision, and in this regard digital libraries of the future must be prepared to provide both broad and deep subject access. Selection and retention policies for electronic documents are also receiving careful attention. In an environment where a library may only own rights to use electronic resources, not actually own them, who becomes responsible for their maintenance and preservation is a serious question that the Library must address.

Selection modes for born digital resources will be developed

The notion of preservation in the digital future will take on a variety of meanings. On the one hand, with millions of physical items in the collections, the Library will be compelled to continue preserving its traditional antique information carriers, such as wax cylinders, lacquer and vinyl recordings, and to conserve and preserve its book and paper collections. It will also be required to maintain the transitional magnetic and film formats. On the other hand, it will be challenged to develop an entirely new set of selection criteria for preserving digital assets whose inherent disembodied nature will require the perpetual application of new storage and retrieval systems to assure the long-term retention of digital information. The scene becomes complicated rather quickly when one ponders the second challenge. Already there are more than 100 videotape formats in the LC collections, some for which suitable playback equipment is becoming harder and harder to find and maintain. In the future and as market forces drive the introduction and deletion of hardware and software systems at ever increasing frequency, migration of digital data to new systems becomes both costly and a bit like shooting at a moving target. Thus, it is an essential element in planning for the Library's digital future that a cogent, over-arching philosophy be constructed that is not solely media driven.

At the heart of this is the need to develop new perspectives for the selection of digital resources. To look intensively at this issue, the Library plans to engage a consultant to facilitate a dialog that will lead to the development of selection models for born digital information resources. Determining what associative information needs to be captured, stored, and regenerated along with digital content is also an area of concern. This information, or 'metadata' in some cases far exceeds content in terms of volume. Yet from a preservation perspective it is a vitally important means of verifying a digital object's authenticity in the future. Since it makes good sense to carefully define metadata elements early on in the preservation planning cycle, a team of LC staff have been working intensively on mapping out essential metadata elements to assure the persistence of digital information.

Recognizing the enormity of this quest and the resources required to move the Library's plans forward, it is making a strong case to the U.S. Congress in the upcoming budget year to provide support for implementation of the digital futures programme. With this support, exciting and important work will move ahead to preserve and protect our nations heritage, steps that will further engage the Library in the international challenge of providing library services in the 21st century.

Mark Roosa
Preservation Director
Library of Congress
Washington, D.C. USA

Congratulations to Mark Roosa, who has been named the Library of Congress' Director for Preservation, last October.

Book Reviews

Conserva No. 3, 1999
Revista del Centro Nacional de Conservación y Restauración

Conserva is published by the Dirección de Bibliotecas, Archivos y Museos, under the direction of Magdalena Krebs Kaulen in Santiago de Chile.

It could be compared with the French *CORE*, although it is not as luxurious but the layout is clear and pictures are fresh and lively.

Conserva is targeted to all Latin American professionals involved in the preservation and conservation of cultural property, thus distilling a feeling of common identity among institutions that has been missing so far.

Issue No. 3 gathers some theoretical texts (Latin American countries are finding their way through the trendy concept of globalization and sustainability), descriptive ones (conservation treatments on paintings, such as San Francisco en oración by Zurbarán) or analytical ones (of archaeological sites).

One text relates the dramatic consequences of the flood that devastated the historical archives of the Santo Domingo Convent in Chile, thus promoting prevention as the best disaster response method.

Texts are in Spanish with abstracts in English.

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Notas del ICC

Chilean colleagues from the Centro Nacional de Conservación y Restauración (CNCR) have been very active in translating into Spanish authoritative publications in English on preservation. *IFLA Principles on the Care and Handling of Library Materials* is one of them. Another noteworthy translation is that of the *Notes of the Canadian Conservation Institute* (CCI).

For Spain, orders should be sent to CCI in Canada.

For South and Central America, the *Notas* can be ordered from the CNCR:

ISSN 0717-3601

Avda Kennedy 9350, Vitacura, Santiago de Chile

Tel. : + 56 2 224 37 82 - Fax: + 56 2 201 88 96

<cncrdbam@ reuna.cl>

World Directory of Map Collections

4th edition compiled and edited by Olivier Loiseaux on behalf of the IFLA Section of Geography and Map Libraries.

714 collections from 121 countries are listed. An impressive amount of work has been done by Olivier Loiseaux and his colleagues from 1997 to 2000. A very detailed questionnaire had been elaborated, the main entries of which are: address of the institution (including e-mail and Web site); person in charge; history (date of the establishment of the collection); staff; area (public, offices and storage in square meters); nature, special collections; bibliographic control; reference services; lending services; copying services; storage equipment, conservation; publications.

The preface sets an example of clarity and professional consciousness.

Entries are 499-page long. The thorough questionnaire is included at the end of the book in its French, Spanish, German, Russian versions, along with an index of names and of institutions.

Printed on permanent paper in 2000, 541 pages

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Biodétérioration et désinfection des collections d'archives et de bibliothèques

Actes des Deuxièmes Journées sur la Conservation Préventive

Arles, 18 et 19 novembre 1996

D'aucuns seront fâchés de voir l'ampleur que prend le Centre de Conservation du Livre (CCL) en Arles, tant au plan national et méditerranéen (avec MANUMED) qu'éditorial, où les publications en français faisant suite à des manifestations professionnelles affluent depuis ces dernières années.

Pourtant les réfractaires à l'activisme et à la créativité hors institution vont bien devoir admettre que le CCL comble le vide qui existe actuellement en France au niveau de la formation continue en conservation des bibliothécaires et archivistes. Plus que cela, il est en train de créer un réseau entre sociétés de services et professionnels de l'information qui peuvent enfin espérer œuvrer ensemble à la préservation du patrimoine écrit.

Les actes de ces deuxièmes journées sur la conservation préventive peuvent se lire comme un petit manuel pratique, de lecture et de consultation aisées. Les intervenants, des chercheurs pour la plupart, font le point sur les méthodes et matériaux utilisés. Ils fournissent des adresses de sociétés de services et de vente de matériels.

Ce vade-mecum permet de rectifier les informations erronées ou incomplètes qui circulent parmi les bibliothécaires et les archivistes, rassurés de se raccrocher à des diktats lus ou entendus. Il montre combien la vulgarisation de l'information déforme les propos émanant de la recherche scientifique. Les bibliothécaires et les archivistes n'ont pas besoin de dogmes interdisant les étagères en bois en faveur de celles en métal, ils ont besoin de savoir qu'il existe une possibilité d'améliorer les conditions de stockage propres à leur institution en étudiant tous les facteurs intervenants. Ils ont besoin d'un réseau de professionnels scientifiques capables de les épauler dans cette tâche et d'un réseau de fournisseurs de services et de matériaux.

Cet ouvrage balaye les idées reçues sur les matériaux des étagères, l'emploi des thermohygrographes, le silicagel, l'usage de l'oxyde d'éthylène, les atmosphères modifiées. Il présente, dans un contexte francisé, la gestion intégrée de lutte contre les insectes mise au point par les anglos-saxons, qui étudie le comportement des insectes pour mieux empêcher leur apparition et leur développement.

Certains intervenants comme Mariasanta Montanari présentent des matériaux peu connus qui ont pourtant fait leurs preuves. Eric Vieillemard montre l'efficacité d'un système de détection acoustique de présence d'insectes xylophages.

Le facteur humain de la conservation n'est pas occulté : une équipe de chercheurs romains donne les résultats d'une étude sur les risques de contamination pour les lecteurs. On apprend que les micro-organismes d'origine humaine sont plus nombreux sur les documents que ceux d'origine climatique, ce qui présente un risque pour les documents, comme pour les lecteurs. Voilà un argument qui permettrait de mieux sensibiliser le public et toute la profession au respect de principes simples de la conservation.

Paru en 1999, 161 pages. ISBN 2-913624-01-4. 150 FF.

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Virginie Kremp
IFLA-PAC Programme Officer

events

CALL FOR PAPERS

17 –21 April 2001 - Sarajevo

Catastrophes and Catastrophe Management in Museums

In the light of the catastrophes experienced by the "Tiroler Landesmuseum Ferdinandeum", destroyed by a bomb attack in 1945 and by severe flood in 1985, and by the "Zemaljski Muzej" in Sarajevo that was damaged by thousands of bomb, shells and bullets from 1992 to 1995, both institutions have gathered experience in protecting and restoring their buildings and collections. However, disasters continue to take place all over the world and our common responsibility is to save our international heritage. We all need information, outstanding ideas, solidarity and assistance from colleagues and institutions.

Sarajevo, "the wounded city", has been chosen as the symbolic venue to welcome an international congress.

Experts from museums, archives, libraries, as well as institutions and bodies specialised in protecting and restoring buildings and collections are invited in order to make this event a milestone for the future.

Sessions are planned on earth science, biological, historical (stone, wood, cloth, paper, glass, metal, etc.) collections, art collections and posters.

The official congress languages are Bosnian, Croatian, Serbian, English and German with simultaneous translation.

Deadline for sending an abstract: 31 January 2001.

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Comment se justifient les choix et l'aspect final des restaurations ?

Qui participe à la concertation nécessaire à ce choix ?

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