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PHYSICAL PRESERVATION OF NEWSPAPER RESOURCES

(HARDCOPIES ARCHIVES, MICROFILM ARCHIVES) as a result of practice at the Bibliothèque Nationale de France (the French National Library)

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Restoration = repairing of brittle newspapers

Damage factors:

- **Self-destruction due to the acidity of machine made paper**
- **Large size items on poor quality paper and ink**
- **Poor storage conditions**
- **Air condition, pollution**
- **Wear and tear**

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Preservation

Various protections:

- **Traditional binding: expensive, not to be used for large size newspapers**
- **Half industrial bindings: bindings with rods and clips or screws, easy and quick fitting, moderate price**
- **Preservation boxes in acid free non pigmented cardboard (pH 7): very good protection of large size newspapers, especially if the boxes are kept flat on the shelves**
- **Polypropylene boxes: not strong enough for much used newspapers**
- **Envelopes of acid free brown paper: very practical and cheep, to be used for smaller thin items**

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Maintenance of the holdings:

- **Supervision of the stacks and of the items used in the reading room (ex. progress of wear and tear, damaged items, etc.); detecting of anomalies or deteriorations**
- **Regular checking of thermohygrometers if not already checked by the Preservation Office**
- **Carrying out of necessary movings of the holdings, partial stocktaking, dust removal**

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Best Storage Facilities

- **Cleaning and disinfection of the premises; airing**
- **Room temperature between +16° and +18° C (in warm countries between +20° and +22° C); relative humidity: 50 to 55 %**
- **Light level : not more than 50 lux**
- **Air condition, checking of pollution and dust**
- **Permanent checking of risks: (fire, flood, infesting, robbery…)**

Equipment of the stacks:

- **Traditional or compact shelving;**
- **Boxes or bound volumes of large size newspapers to be stored flat on the shelves with 3 boxes or volumes per shelf;**
- **Manual or automatic transport of the items**
- **Collection building: estimates of the growth of holdings, particularly tricky for newspapers**

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Deacidifying prior to restoration

- **Manual deacidifying:** each sheet is immersed in a borax water solution, then dried in the open air or on special crates.

- **Mass deacidifying:**

  - The Wei T'o process was developed in Canada. The base product is the methylmagnesium carbonate.

  - The Bookeeper process developed in the USA is used by the Libtary of Congress. At the end of the process an alkaline buffer is deposited directly on the fibres. For newspapers in a reasonable physical condition this process may give them an additional lifespan of 30 or 40 years.

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Semi-industrial restoration

- **Thermosizing/laminating**
- **Leafcasting**
- **Neutralisation and reinforcement of the paper in a single process: Splitting**
- **Packing of the repaired items: preservation boxes of acid-free and lignin-free cardboard or polypropylene**

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Saving by conversion to another storage medium:
Microfilm

- **The transfer of the hardcopy to a substitute, the microfilm, seeks to preserve the hardcopy from wear and tear. But items which are difficult to use, such as regional daily newspapers with many local editions, or, some pamphlet volumes, or artificial collections - these are microfilmed also.**

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Newspaper Preservation Microfilming

Preservation microfilms should be the accurate image of the original document

- **Use a 35 mm unperforated film with silver gelatine emulsion on a polyester base, type black and white, with 70 cm leader and end slip, start and end technical targets and bibliographical targets on the film; 30 m universal reels in acid-free and lignin-free cardboard or polycarbonate boxes.**
- **For newspapers of smaller size, it is possible to use a 16 mm silverhalide polyester film.**
- **Preservation microfilms should always be made in three generations: master negative (archival master copy); internegative (working negative for duplications); positive copy, which is a service film for the users.**

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Completing of the files to microfilm

– Missing issues should be sought for through interlibrary lending (often a difficult task), or by photocopying to make films as comprehensive as possible.

Reading equipment:

– Reading machines Gideon 1000 made by par Bell & Howell: approximate price: 4500 € (taxes included), and a few reader-printers to obtain photocopies from microfilm.

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Storage requirements for preservation microfilms:

Clean dust-free stacks especially fitted for microfilm reels

- **Master negative: low room temperature (14°-16° C; Relative Humidity 40 %), preferably in remote stacks. Regular inspection of master negatives every three or five years is required;**
- **Working negative: low room temperature (16°-18° C, Relative Humidity 50 %), possibly in remote stacks**
- **Service film (positive duplication): room temperature of 18°-20° C, Relative Humidity 55-60 %, preferably in stacks close to the general reading room or to the special reading room for microforms**
- **The microfilm reels can be stored in cupboards, drawers or on ordinary shelves allowing conditioned air to circulate. All storage furniture must be non combustible**

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Microfilming in France

– The major part of BNF (Bibliothèque Nationale de France)'s collection of national newspaper backfiles is microfilmed.

– Around 30 national historical newspapers, already microfilmed, are now being digitised. Owing to uncertainty about the durability of digital files, they do not supersede the microfilm as a long-term preservation means.

– BNF's yearly microfilming programme of running newspaper files covers 11 national dailies and 20 French regional dailies with local editions (some 5500 reels).

In 2009, BNF's microfilming programme of newspaper backfiles included some 290 titles, or around 1.100000 images or 2200 reels. The general total of the Programme was 145000 €.

Some foreign daily newspapers are required on microfilms by subscription for a yearly total of 115000 €.

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Some national plans of newspaper microfilming

• *USNP (United States Newspaper Program)*, a national programme of cataloguing and microfilming of all American newspapers from the very beginning (launched in1994 and almost finished in 2004).
http://www.neh.gov/projects/usnp.html

• *Newsplan*, a microfilming programme of all British historical newspapers since the 17th century was launched in 1984 and became effective from 1991 on.
http://www.newsplan.co.uk

• *Metamorfoze* programme was launched in 1997. It does include newspapers. It is not only a microfilm programme, it also concerns the preservation of the originals.
http://www.metamorfoze.nl/en/programma/index.html

• The Nordic countries have microfilmed their national historical newspaper files from 1640 to 1900. The microfilms are now used for digitisation within the project *Tiden*.
http://tiden.kb.se/

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➢ **Mass production techniques for the conversion of high quality microfilms to digital images: high-contrast films with a limited dynamic range are often a good feature (cf. Finnish experience). Digitising from photographic material may not be as good as digitising in greyscale from the original.**

Microfilming for digitisation, full text search for future automatic scanning process: the use of International and National Standards for Microfilming and IFLA Guidelines and its supplement can be considered[1].

➢ **A hybrid approach: Digital Imaging and Preservation Microfilm**

A possible Mass production technique for conversion of digital images to microfilms in a single process[2].

The case of *Ouest France*: this company produces microfilms and digital files using a hybrid solution: from born digital data to microfilm in one continuous graphic chain (from the publisher's site to the provider's site, in this case, the ACRPP (Association for Conservation and Photographic Reproduction of Newsprint).[3]

1. Guidelines for Newspaper Microfilming. *IFLA Professional Reports, N°49.* - The Hague, IFLA Headquarters, 1996, and *Supplement 2001:* Guidance for Preservation Microfilming of Newspapers for Digitisation.
2. http://www.clir.org/pubs/archives/hybridintro.html
3. contact@acrpp.fr

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Advantages of the microfilm:

- **The life span of a black and white 35 mm unperforated silverhalide film is more than 200 years**
- **A high quality microfilm (high contrast and high resolution) can be used for digitisation ; digitising from microfilm may even improve the quality of the digitisation**

Inconvenience of the microfilm:

- **Coloured microfilms are still very expensive and not stable for long-term preservation (life span of some 30 to 40 years)**

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Setting up of a Newspaper Preservation Plan

- **A preservation plan may include one or several programmes. After detailed cost estimates it is essential to follow the programme closely in order to avoid all supplementary expenses.**

- **Cost of restoration**

  As far as newspapers are concerned, the price of manual restoration is indeed very high. When needed, partly restoration by laminating is used for newspapers to microfilm or to digitise.

- **Cost of conversion to microfilm**

  To estimate the real price including all the various tasks before and after the filming is very difficult. The image price may increase by 200 or 300 % or even more.

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Shared preservation: some examples in France

- **For some kinds of collections another possibility can be shared: dynamic management and preservation of the collections within a network of library partners. In France a documentary map was elaborated to know which subjects are covered by each library.**

- **The CTLes (Centre technique du livre de l'enseignement supérieur), was set up some ten years ago in Bussy-Saint-Georges (East of Paris) for the university and research libraries in Paris and the region Ile-de-France to share the preservation of their holdings.**

- **An agreement was signed between the Centre and each library partner. After each weeding of the collections, a library will send its items to the centralised repository which is responsible for the best preservation, including restoration and/or microfilming. It provides copies of the items on request. It also provides the library with technical advices.**

- **Shared preservation may also be the result of a common decision by several libraries within a region or a special subject field.**

- **Shared preservation from an international point of view may also be considered by national libraries (ex. within the European Union or the Francophonie, a network of national libraries from French-speaking countries)**

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A national shared preservation plan including regional and local programmes for restoration and reproduction should be organised and carried out. National libraries alone cannot assume this task anymore