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Special Paper

Preservation of Newspapers

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ABSTRACT

Newspaper is the mirror of society. Newspaper captures day to day life of a community and its citizens. Under the headlines proclaiming great events are editorials, human interest stories, society news, sports reporting, advice columns, obituaries, and business reports that as a whole tell the life story of the communities in which those great events take place and the lives they affect. This is a valuable resource for scholars and researchers for future resources. If newspaper is not preserved then no one can access information in future. This paper gives procedures for preserving newspaper, and various tools and software that Times Group is using for preservation of their publications.

Keywords: Preservation, newsprints, e-prints, microfilming, newspaper

1. INTRODUCTION

Thousands of newspapers are being published every day. Most eventually find their way into trash bins, under litter boxes, into bird cages, or, hopefully, into recycling containers. The perception persists that yesterday's news is no news at all. For archivists, however, that perception presents a tremendous challenge. The main challenges to the archivists are increasing volume of the newspapers and simultaneously decreasing space in the office. Easy retrieval is also a big concern. Archivist has to make the strategy for easy access before preservation. Environment is another issue especially the environment of our subcontinent is not favourable for preservation. This is well known that low budget of the archive/library often restrict archivists from luxury. The purpose of preservation is to ensure protection of information of enduring value for access by present and future generations[1]. Preservation management is about risk management.

2. PRESERVING NEWSPAPERS

There are different ways of preservation of newspapers. Earlier there was only one process of physical preservation of printed newspapers. Still some archives keep the printed copies of newspapers for future reference. Another way to preserve information of newspapers is to keep news clipping/press clippings for future reference. Different newspaper archives keep the news clippings in an organised way so that it can answer the queries of the users. Good databases of press clippings may be able to answer any query. Microfilm is the most important thing in newspaper preservation. Voluminous newspapers can be stored in a little microfilm roll and this remain intact for next 500 years. In the age of Internet and information revolution everybody wants information in finger tips. Easy access and quick search is the prime focus for any researcher. So, digital preservation is the way to provide quick and easy access. Different newspapers have started microfilm digitisation projects and e-paper archives.

Newsprint is not a permanent quality paper because of the wood impurities that remain in the paper after processing. These include resins, tannins, and lignin. Lignin represents the largest percentage of impurities. Lignin itself is not an acid, but when exposed to light, high humidity, and atmospheric pollutants, it promotes acidic reactions in the paper. Acidity causes the fibers to weaken and break and is the major culprit in causing paper to deteriorate and become discoloured and brittle. Lignin can be extracted from the newspapers but it is not extracted by the modern newsprint producers. Ideal environment for the preservation of newspapers is dark, stable environment of 60-70^0 F and 40-50 per cent relative humidity. Newspaper can also be protected by polyester film encapsulation or plastic sleeves. Encapsulation was developed by the Library of Congress to protect fragile and brittle newspapers. The process involves placing the sheet of newsprint between two clear sheets of polyester

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film. The film is sealed around the edge with a double stick tape or by machines designed to bond the film. The papers which are encapsulated or placed in plastic sleeves generate acidic gases and will deteriorate the paper. Chemical stabilisation of acids in paper called deacidification. This process is designed to neutralise the papers acidity and leave an alkaline salt behind to absorb acids. This chemical treatment does not stop deterioration but it will slow the rate of deterioration. Deacidification is recommended for all papers that are encapsulated or placed in plastic sleeves.

While microfilming remains the most reliable means of preserving the intellectual content of newspapers, many institutions need to service and store newsprint for long periods of time prior to filming and, in some cases, may wish to store original copies on a permanent basis. Most of the newspapers do not trust on binding and keeping of old newspapers but some still keep the printed records. Binding has been a frequently used method for organising and storing newspaper files for many decades, but it is not recommended. Apart from the expense, binding of newspapers is often damaging to the text; creates unwieldy volumes that are difficult to handle properly. Space is the main problem for storing bound volume of newspapers. If retrospective files of newspapers used fairly frequently, the recommended method is to store the papers flat in boxes. While buffered custom boxes made to fit each newspaper file would be ideal. Prior to boxing, the newspapers should be stacked neatly, organised in chronological sequence and a finding aid should be prepared that lists the titles and issues held, to prevent excessive handling of the issues themselves. The box label should contain the title(s) and range of dates contained in the box, with a list of missing issues attached to the inside of the box lid for easy reference. The boxes will provide overall support and will protect the newspapers from light, dust, and insects while allowing easy access.

3. PRESS CLIPPINGS

Press clippings is another form of preservation. It is the most important service in the newspaper library. The process involves cutting and pasting of important articles and their organisation in such a manner that one can easily get access to the desired article. Different newspapers follow different procedure for organising newspaper clippings. For example, *The Times of India* (TOI) follows the Dewey Decimal Classification (DDC) classification system while numbering article for the press clipping database. Earlier press clipping used to be organised in different files and placed in the library shelves. Now time has changed and press clippings are being digitised in different database management systems so that one can search these databases even from remote location. Most of the newspapers are nowadays opting for digital press clipping service and maintaining in-house database management systems for keeping records. Important articles are selected, classified, scanned, indexed and then stored in a safe server. TOI has two archival systems namely, Times Archival System (TAS), and DATASCAN. The TAS, an oracle based in-house database which contains digital news clippings of TOI, *The Economic Times* (ET) and *Delhi Times* (DT) since 1997 to 2004. This database follows a client server-based architecture model. Data are safe as stored in two different servers located in Delhi and Mumbai. TOI started DATASCAN database management system in 1993. This is a C++ based application. Important news articles of 11 competitive papers like *The Hindustan Times* (HT), Indian Express etc. are being preserved. The database has vast collection of 10 lakhs news clippings available in the server. Two servers are being devoted for this database and stored in a cool place. Computer professionals take regular backup and look after issues related to protection of digital data.

4. MICROFILMING

Microfilming is the most important thing in newspaper preservation. It is also called microphotography which is done by reducing the images by 25 times. Usually 35 mm 100 ft Microfilm roll is used for newspaper microfilming. Microfilming is one of the most extensively used and common practices in modern reprographic science. The first newspaper to be microfilmed was the *London Evening News*, filmed in 1853 to demonstrate the viability of microfilming techniques. During 1930s, microphotography was recommended as a means of preserving newspapers. That time the life expectancy of microfilm was merely a decade. By the end of that decade both the Library of Congress and the New York Public Library had established full-fledged microfilming programs. Nowadays standardised microfilm base is long lasting. Life expectancy of polyester-based microfilm is approximately 500 years. Microfilm has now become an economical and reliable means of preserving newspapers. There are various institutions that have standardised the microfilm production and preservation.

There are number of advantages which made microfilm archivist's first choice for preservation of newspapers. There is no issue with hardware or software obsolescence and the microfilm reader is a simple mechanical device with a light source and magnification. Storage cost is very low and it is difficult to manipulate the content of microfilm. Film offers excellent compaction and it is lossless. Microfilming is a well researched area so standards for microfilming are available. But some challenges are also there. Rework is expensive because it is not just a copy and paste factor. Brittle newsprint is a major concern for microfilming old newspapers. Oversised pages often create problem for taking exposure of the film,

and illustrations and colour images filming requires proper density of the images.

There are different bases of microfilms used for last several decades. Cellulose-based acetate microfilms were used for library applications from the 1920s to the 1970s but their life expectancy was not so good. These films were highly susceptible to chemical deterioration. Preservation of acetate films is done by duplication onto polyester-base film and treated with polysulfide solution. Silver lock treatment is prescribed by International Permanence Institute (IPI) as most effective polysulfide treatment. This treatment is a special chemical bath that makes silver film resistant to the effects of atmospheric pollutants by converting most of the metallic silver that makes up the image to silver sulfide. Metallic silver is very susceptible to oxidation. It makes film chemically resistant to damaging atmospheric agents, without altering important film characteristics.

Silver lock treatment is used for restoration of the microfilm. Another important film base is Diazo. This film is used mainly for reference purposes, as it can sustain heavy use without scratching. This is usually used for duplication of microfilm. Diazo film is polyester-based film coated with an emulsion of diazonium salts. Storage requirements are somewhat less demanding than those of silver-halide film; normally stored in a filing cabinet in a climate-controlled office environment. It is not archival quality microfilm, however, and should not be relied on for records' preservation purposes. Silver-halide produces images of high quality and is used universally for original camera negative (first-generation) microfilm. Its potential life-expectancy of 500 years makes it the only film suitable for archival records. Silver-halide films have rigid environmental requirements, however, and deteriorates rapidly if exposed to high temperature or humidity, chemical agents or pollutants, or frequent handling. Its primary use is as a security copy of the records, from which other copies can be made in case of emergency. This type of film is commonly selected for use in off-site storage by companies or organisations with storage needs.

Quality of the microfilms is being maintained by checking reduction ratio of the images and density of the image. Archive master is prepared and being used only to create another print master in case the original print master is damaged or lost. In some newspaper archives, archive master is kept in remote central underground vault. Print master is a second-generation direct duplicate made from each archival master. It is used to create third-generation positive service copies. Service copy is intended for use for reference purpose.

Acid-free containers are required for microfilm roll preservation. One roll per container is acceptable for archival purpose. Containers are stored in metal cabinets. Separate archive master, print master, service copy should be kept so that master copy can not be used as service copy. Microfilms are susceptible to environmental conditions so films should be stored in a cool place. Temperature and relative humidity should be 68^0 F/ 20^0 C and 40-50 respectively. Nowadays easy access and quick search is the prime focus in news archives. Microfilm neither gives easy access nor provides modern search facilities so digital preservation is the way to provide quick and easy access. Digital archive is preferred by newspaper houses because one can access the archive even from a remote location. Checking of individual reels is required for microfilm archive but there is no need to do that in case of digital archive and items can be searched by keyword only. Microfilm reader lacks modern search facilities but digital archive is searchable with various options. Reading experience is also not very good in microfilm in comparison of digital archive.

For digitisation purpose microfilm is scanned. Scanned images are then converted into digital TIFF format. The newspaper is segmented into logical components before XML file is then created for each article or advertisement, and finally index of entire collection is made to make the output searchable. The finished product presents every edition of publication in its original format. Most of the modern newspaper houses are now considering the digitisation of microfilms. Besides the digitisation of old microfilms modern newspapers have come up with e-paper for Internet and for easy archival. E-paper gives access to the publication in its original format, anywhere, anytime, 24X7 with just a Web browser and no client software to download. It offers hybrid print and electronic subscriptions to maximise the value to audience and engage the audiences in multiple formats. It helps in reduction of production and distribution costs for digital subscribers. Users can easily search, print, and e-mail articles and advertisements.

E-paper facilitates access to the interactive advertisements and editorials and an online/offline subscription that suits customer's needs. E-papers have become very popular and most of the newspapers make them available on their websites. TOI has opted Olive software for production and archival of its e-paper. TOI's e-archive gives total freedom of search and one can access it from remote places also. For preservation purpose, microfilm shows very low risk if proper film base, processing, and physical environment is maintained. Digital storage may have low to high risk as format and preservation metadata determines the risk. Functionality of microfilm is uncompromised but when compared to digital storage. Microfilm storage is passive and there is minimal intervention but in case of digital archive storage is active and there is periodic mass intervention. While microfilm's damage depends on physical intervention,

damage of digital archive is subject to undetected loss. After all cost of microfilm preservation is very less where as digital archive costs much more.

Some obvious questions now are: Is microfilm obsolete? Should we go for digitisation only? When e-paper is available then why microfilm? There are various positive and negative points both in Microfilm preservation and digital preservation but if budget permits then newspaper archives should maintain both archives. Some leading newspapers like TOI maintain microfilm archive, digital archive as well as printed bound volumes of newspapers.

FURTHER READING

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