

## **IDEAL CONDITIONS, POOR CONDITIONS, AND THE RESCUE OF MICROFILMS**

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### ***Ideal Conditions, Poor Conditions***

The real world of microfilms is not uniform. For everybody involved in management or assessment of microfilms or microfilming projects it is essential to realize this simple truth. In order to avoid an unnecessary debate on political correctness, in the following I will not use terms such as western, non-western, developed, underdeveloped. It is sufficient to state that each status can be located on a scale between two extremes. One extreme situation might be called ideal, the other one poor.

In the ideal situation people are very much aware of the imminent disappearance of their cultural heritage. Everyone agrees that this process should be stopped whatever the cost. Funds are available, because economic conditions are good. Large national projects for saving the written cultural heritage are developed or carried out by way of microfilming and/or digitization, while being supported by research on these matters. Microfilms are being processed and controlled in a unpolluted environment. The films – there are at least three generations – are clean and contain no residue. They are stored in climatically controlled vaults and are subject to quality checks at regular intervals. There are regulations as to where each generation of the films and/or duplicates are stored in order to avoid total loss in case of a catastrophe. Nor are the end users unhappy. Although they prefer the original document for consultation, they can easily find the microfilm they look for in the catalogue, and read it – sitting in an easy chair – from the screen of a digital reader-printer, which gives the extra advantage of digitisation. In this paradise the temperature outside is relatively stable – neither too hot nor too cold – and humidity is at a constant low level.

The other extreme describes a situation diametrically opposed to the one just sketched. We find ourselves in a world completely indifferent towards these issues. The idea of cultural heritage is considered irrelevant; the economic problems are such that the first priorities are food and shelter. A few individuals show concern, but have no institutional or structural backing. Apparently films

were produced at one time, but it is hard to get information on where to locate them. When they are discovered, they are in disarray. Some films are incomplete or are lacking altogether, others have become unusable or have melted. There is no climate control in the repository, or the temperature and humidity vary continuously because the air conditioning is shut off after office hours. It is hard to distinguish between first, second and third generation films. Some generations seem to be kept in the same space. End users consult the originals since either there are no readers or these are out of order. Outside it is hot and steamy. And to top off this misery: a foreigner regularly drops by and tells the management that everything they are doing is wrong.

Broadly speaking, there are differences in:

- climatic conditions: temperature, humidity
- physical conditions: infrastructure, buildings, climate control
- economic conditions: available funds
- cultural/‘ethical’ conditions: awareness, sense of urgency, management attitude.

### ***The Rescue Of Microfilms***

Following an evaluation of microfilming projects I carried out in 1998<sup>1</sup> it became evident that not only original documents (manuscripts, books, archival material) are in immediate danger, but also the microfilms that were produced to save the information contained in the originals. In a number of cases, the microfilms had become irreparably damaged, whereas the original manuscripts were still in good condition. This process of deterioration took less than 20 years to complete. Indeed, a bitter irony. Fortunately I did not come across instances of total loss of both originals and originals. Another fortunate thing was that in most cases duplicate films, which are stored under excellent conditions, were available in the USA. But that we have a problem here is clear.

This state of affairs may, because of a conjunction of circumstances, not be uncommon in other Southeast Asian countries as well, in particular in countries with a tropical climate.

Two matters should be pursued: an inventory should be undertaken to determine the physical state of microfilms in Southeast Asia, followed by a rescue operation.

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<sup>1</sup> Roger Tol, *Acid irony? Or how to deal with negatives positively: an evaluation report of the microfilming projects in Indonesia supported by The Ford Foundation*. [Jakarta: The Ford Foundation], 1998.

### *Inventory*

From an academic point of view (to be distinguished from funding!) it should not be too difficult to organise a systematic inventory of the films kept in Southeast Asia. I am confident that the experts present on this occasion might soon agree to the format of such a project: what to look for, how, where and when.

More difficult is the other point, a rescue operation of microfilms. Though there might be general ideas on this, to my knowledge not much research has been done on this aspect, in particular the technical aspects of rescuing damaged films in a tropical environment. Research is necessary; however, in some cases the problem is so urgent there is hardly time to wait for research results; we have to take the risk and act immediately.<sup>2</sup>

### *Worldwide Distribution of Backup Sets*

One thing we will not disagree about is that backup sets (duplicates) are necessary. There should be backup sets available not only within the country itself, but also abroad, specifically in locations where optimal storage conditions are undisputed such as in the USA and in Europe. This worldwide distribution of microfilm sets is essential. To be nationalistic in this respect would be deplorably short-sighted and absolutely out of place. After all, everybody agrees we are dealing with global heritages, matters of importance to all mankind, so there should be also a global responsibility.

### *Hermetic Sealing*

What should be done with damaged films, after they are rewashed, cleaned and dried? To my mind a clue to the physical storage of films runs parallel to John Dean's advocacy of creating micro-environments, such as protective enclosures.<sup>3</sup> I refer to the technique known as "hermetic sealing", which is – to my mind – specifically useful for the preservation of microfilms in tropical countries. Hermetic sealing is an encapsulation technique by way of storing the films in hermetically sealed pouches. This method of packing films is quite simple and does not need any advanced equipment. The film is placed in an aluminium (food

<sup>2</sup> For example, I came across three interrelated collections of films which are probably all corroded because of the extremely unfavourable preservation conditions. All are stored in iron tins, most of them already rusted. Of the three locations, two can not afford airconditioning, while the third has aircon for only a few hours per working day. In the two locations mentioned the films stick together and are completely mildewed. When I opened one tin, apparently for the first time in 15 years, the stench of hypo was so overwhelming, that I feared the mucous membranes in my nose would be damaged. In the one location with temporary aircon at least three films have in fact melted.

<sup>3</sup> John Dean, 'Collection care and preservation of Southeast Asian materials'. *International Preservation News* 20 (December 1999), pp.10-14.

package) pouch, which is vacuum pumped. A small amount of nitrogen gas is added to remove all remaining moisture and to avoid rigidity of the pouch (which otherwise might break). Then the pouch is hermetically sealed (by melting).

The process is not very well known outside a few institutions in Canada, The Netherlands and Indonesia. In the last half of the 1980's The Bank of Canada issued a very positive evaluation of this method. Up to the present The Bank of Canada is still archiving all microfilms by hermetic sealing - to their complete satisfaction. Following their report, tests were conducted by the the Indonesian Centre for Scientific Documentation (PDII) in Jakarta, among other ways by placing one pouch under water and another in a flower box. After being kept in these environments for 15 months, the films were still in excellent condition. See Wilson 1986 and Toomey 1987 (appended to this paper). The good results of the tests also motivated the KITLV Library to process their microfilms made in Jakarta in that way. Since 1991, for all routine KITLV microfilming both a master film and a positive copy have been produced. The masters are packed in hermetically sealed pouches at the PDII in Jakarta. Together with the positive user copies they are sent to Leiden, where the masters are stored in a repository (with no climate control) outside the library building and the user copies are stored in the fully climatized library repository.<sup>4</sup>

Hermetic sealing apparently guarantees a very long life span under almost any climatic conditions. Since no climatic control is necessary—no aircons, no dehumidifiers, no equipment whatsoever – this is an ideal way of storing (original) microfilms.

Yet, before embarking upon large scale hermetic sealing projects, it would be good to put the whole process to severe tests again. Standard procedures should be established. As said before, in some cases we just cannot wait that long anymore and have no other choice but to start the rescue operation by rewashing, cleaning, drying and sealing.

#### ***APPENDICES :***

“An alternative method for long-term storage of microfilm” By Donald G. Wilson.  
 “Microfilm is forever: keeping information fresh in aluminum pouches” By Gerry Toomey.

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<sup>4</sup> On 10 September 1998 I opened two pouches sealed in 1991 and checked the films. These were still in excellent condition, although sticky tape was used for keeping the films in position (acid free paper with a cotton thread should be used instead).