

ORIGINAL PHYSICAL RECORDINGS OF AUDIOVISUAL DOCUMENTS: PRESERVE OR DESTROY AFTER DIGITIZING?

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An animated discussion is now going on about whether — and if so how — original physical recordings of audiovisual documents should be preserved once they have been digitized. There are two main arguments against preserving them, or rather, in favor of destroying them: firstly, many within archival circles believe that digitization resolves most if not all the problems arising in connection with the preservation of documents and that, as a result, only digital storage will subsequently have to be ensured; secondly, the high cost of preserving originals is a strong argument in favor of their destruction. The debate is being spearheaded by radio broadcasters, who basically only need content in digital form for their re-use; given the constant pressure to contain costs, the tendency to want to discard the physical originals is understandable. In this context, Richard Wright, a recognized expert for the preservation of audiovisual documents, is frequently quoted; in his report on “Preserving Moving Pictures and Sound,”¹ he does not seem to set much store by the preservation of originals after digitization.

But the viewpoint from the relatively narrow perspective of the re-use of content should be broadened to the need to preserve and transmit our audiovisual cultural heritage. In his article, Richard Wright explicitly focuses on the digitization of analog audiovisual recordings and the preservation of digital content; he does not discuss the preservation of the originals after digitization — which does not mean that the originals are not important or that they should be discarded. “*The report concentrates on digitization encoding, file formats and wrappers, use of compression, obsolescence and what to do about the particular digital preservation problems of sound and moving images*”, (p.1) and further down “*This report describes the techniques needed for preservation planning, digitization and digital preservation of audiovisual content.*” (p.1) His restrictive comment should also be understood in the sense that the article focuses on the digital content of the originals and not on their preservation. To the contrary, as regards the originals, Richard Wright says the following in the same article: “*Keeping the originals is a basic principle of archiving*” (p.6, § 4.1); in this context, he refers to several documents, including Ray Edmondson’s key paper (2004), the publication by PrestoSpace (2006) or those of the IASA Technical Committee, TC 03 and TC 04. These papers clearly state that the physical originals of audiovisual documents and the corresponding playback equipment should be preserved as long as possible after the documents have been digitized.

According to Ray Edmondson:² “*Conserving an original carrier and protecting its integrity means that no information is lost, and all future options for preservation and access are kept open. Many archives have now regretted the premature destruction of originals after making copies that proved to be inferior in quality or longevity. Discarding an original, no matter how many copies have been made, should never be undertaken lightly.*” (p.56, §6.4.5). Preservation Guide,³ the PrestoSpace/BBC website — created by Richard Wright himself — dedicates an entire chapter to the preservation of originals; for their part, the authors of IASA publications TC 03⁴ TC 04⁵ explain repeatedly that: “*Because of the potential for improvements in primary and secondary information retrieval and the availability of ever increasing digital resolutions, all transfers should be considered preliminary. Hence the original carriers and suitable play-back equipment must be preserved whenever possible.*” (TC 03 p.7, § 9) and “*As a general principle, the originals should always be kept for possible future re-consultation.*” (TC 04 p.31, § 5.1.1).

1 Richard Wright, “Preserving Moving Pictures and Sound”, DPC Technology Watch Report 12-01 March 2012. DPC 2012.

2 Ray Edmondson, *Audiovisual Archiving: Philosophy and Principles*. UNESCO, Paris 2004.

3 <http://preservationguide.co.uk/RDWiki/>

4 Technical Committee, Dietrich Schüller (Ed.), *The Safeguarding of the Audio Heritage: Ethics, Principles and Preservation Strategy* (IASA TC 03), IASA 2005.

5 Technical Committee, Kevin Bradley (Ed.), *Guidelines on the Production and Preservation of Digital Audio Objects* (IASA TC 04), Canberra, IASA 2009.

The reasons for preserving original audiovisual recordings are obvious. Analog audiovisual documents are artifacts having a specific form and materiality. As a whole, they contain a variety of information: primary information (contents) and secondary information (form, material, labeling, etc., see IASA-TC 03). They are the conduit for over 100 years' history of development and manufacturing of the most diverse formats with their corresponding recording and playback equipment. This history has marked decades of radio and television broadcasting, making it possible in the first place. The type of utilization and other, mostly indirect, information which cannot be conveyed through digitization are lost. Yet this information is essential to the understanding and contextualization of the production and the utilization of the content. From the archiving perspective, the analog originals and the corresponding playback equipment must be preserved — even after digitization — if we are to transmit our audiovisual cultural heritage and its history to future generations.

As regards digitization proper, a few important questions need to be considered, namely: what digitization process was or is applied, what digital archiving formats are available, how can authenticity be assured compared to the original, are there quality controls? Because digitization, digital formats, and format quality are subject to constant technological changes, re-digitization may be necessary in the near future. But above all, owing to the frequent lack of quality control in mass digitization, the originals have to be preserved in order to remedy any errors that may be discovered in the digitization at a later date.

Another problem area relates to the archiving of digitized documents: how safe are our storage systems? Do we have sufficient experience with the different systems and their handling, and with migration and changes in format, to guarantee long-term preservation? How can losses be replaced if the originals no longer exist?

A viable compromise needs to be found between “discard originals after digitization” and “preserve them all.” In our opinion, a differentiated approach must be adopted depending on the format of the originals and their reproducibility, i.e. the playback equipment:

Formats: certain formats, such as acetate records or 2” videotapes for example, are at great risk of physical degradation and may soon be readable only once and never again. On the other hand, other formats have proven to be stable and durable, especially when preserved under ideal archiving conditions.

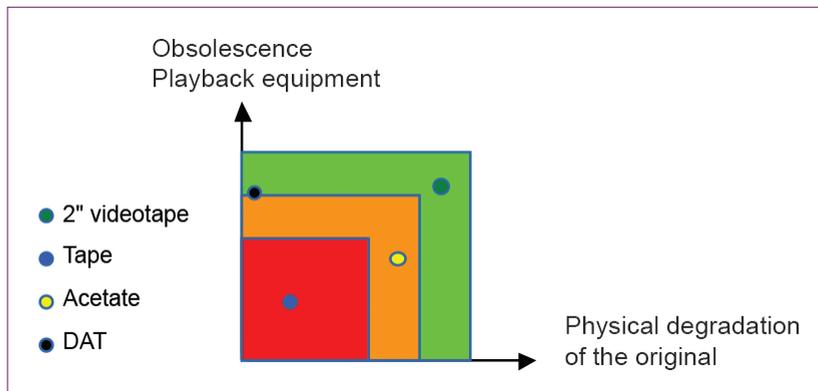
Playback equipment (obsolescence): most playback equipment for physical audiovisual recordings are no longer manufactured; functioning devices are becoming increasingly rare and spare parts are ever more difficult to find. Some of these devices, such as record players for example, could be built again today if necessary; tape recorders and spare parts are still being produced, or being produced anew, especially for sound. The situation is more difficult as regards playback equipment for older formats, particularly equipment that was only briefly manufactured and disappeared quickly from the market; but even here, it would probably be possible to reproduce a playback device. However, there could soon be a more substantial problem with the playback equipment for more recent formats. These devices are quite complex and rely on built-in proprietary software and hardware; the decision to stop their production could create a major problem for the readability of the corresponding formats. An illustrative example was SONY's short-notice decision to stop producing its DAT playback devices and spare parts.

Mass storage systems (digital archives): So far we only have limited experience with the preservation of digital documents, with the various mass storage systems and the migration from one generation to the next. It is therefore advisable to keep originals which can be preserved (see below) at least until sufficient experience has been gathered with the handling of digital formats and storage systems and at least two migrations and a change in technology have been implemented.

In summary, we would observe that the situation of the individual originals and playback equipment, and the combination of the original carrier and relevant playback device vary widely; accordingly, the decision whether to discard or to preserve the original after digitization should be considered on a case by case basis.

A solution might be to prepare a diagram for each format depicting the physical condition of the original as combined with the availability of a suitable playback device. The example below could be helpful in deciding whether or not to preserve an original after digitization.

Example:



The formats in the green section are such physically degraded, or the availability of the playback equipment is so critical, that longer preservation is questionable and subsequent re-digitization hardly possible; the destruction of these originals can certainly be envisaged (e.g., 2" videotapes). It is essential to conduct detailed and documented quality control for all the originals that no longer justify preservation before they are destroyed.

The decision to destroy the formats in the orange section requires careful consideration. Thanks to the advances made in the development of new playback systems, formats which are so degraded that they cannot be played on traditional equipment can now still be saved. The *VisualAudio* or *Irene* systems for replaying acetate records without contact are examples. The formats in the red section must absolutely be preserved at least until they are completely degraded or obsolete and can no longer be reproduced.

Other possibly helpful decision-making criteria may be found by evaluating the contents, through selection or, in the case of documents that have already been selected, through prioritization. The selection or prioritization process is generally conducted before digitization. Basically, this is when one should think about what to do with the originals after digitization.

The research currently undertaken with a view to restore and improve readability (for example, the development of a new method for reconditioning tapes) and thus enhance the quality of the digitization of content is a further argument in favor of preserving the originals.