

# What to do with audiovisual carriers after their digitisation?

## Proposal for a five-step decision making framework

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### I. Introduction

How much do archives and museums still have to invest in the preservation of audiovisual carriers, if experts predict that most magnetic tapes will no longer be readable after 2030? Will there even be players available? Some machines and parts are already scarce. In other words: now is the time to digitise analogue audiovisual carriers. But what happens then?

The above is of course a very provocative statement, but as ever more audiovisual collections get digitised, the question arises indeed what to do with the original carriers, after the migration to file based formats has been done. Classic audiovisual archiving theory, in this case IASA-TC 03, says we should keep them 'whenever possible'. But what if storage issues come up for example? Will we keep them and for how long then, or can we discard them, how and under which circumstances? Undoubtedly there is no simple answer, so we may have to formulate a nuanced advice, with many arguments to base a decision upon. We'll have to investigate and provide good practices, develop solid guidelines and even instruments that can really serve in practice, such as a decision framework.

The current large scale digitisation projects organized by the Flemish Institute for Archiving (VAA) are the particular occasion to contemplate about the issue of preserving or disposing audiovisual carriers after their digitisation. These projects involve almost a hundred Flemish broadcasters, libraries, archives and museums managing audiovisual heritage collections. Several of them have already raised the question about what to do with the carriers after digitisation. VAA, together with PACKED (the Flemish centre of expertise in digital heritage) and FARO (the Flemish interface institute for cultural heritage), wants to help its content partners out, by providing them with a solid framework on this issue. Without pretending to be a standard, VAA's content partners can use these, to formulate a well-advised decision on whether to keep or dispose of the audiovisual carriers after digitisation.

Although other arguments than the one followed by us in this article might evidently come up, our aim is to inspire others to answer difficult questions about discarding carriers, to share our guidelines and evolve to better argued practices. To come to our own argumentation, we have organised several discussions, not only with our content partners, but also online and at two international conferences on audiovisual archiving: SOIMA in Brussels (September 3-4, 2015) and the FIAT/IFTA World Conference (October 7-10, 2015) in Vienna. We also studied some recent publications, particularly the ones by Memoriav (2016), Pellizzari (2015), Mäusli, Herold

& Looser (2014) and the presentation by Arnoud Goos (2015). We also took a look at a guideline from the museum world, i.c. the Dutch guideline for the discarding of museum objects (LAMO).

We'll demonstrate below the first draft of the decision framework as developed within VIAA, that could be followed by our content partners as a guideline. This decision framework is based on a series of questions. We'll also discuss the disposal of the carriers itself, because this also deserves our attention. In the conclusion we'll summarize our motives and arguments and we'll point to a few returning aspects. May the arguments mentioned in this article encourage audiovisual heritage institutions to take an open-minded approach to this delicate issue. May the arguments not mentioned serve as an encouragement to elaborate further on it.

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## II. The decision framework

### a) The preamble

Prior even to the question if one would like to discard (one way or another), there should be a solid **digital collection management**, for sustainable preservation of the digital copy. This means that the collection manager should have the certainty that the collection or the item is decently digitised, by performing thorough quality control. Also trustworthy storage and preservation measures to ensure access to the resulting digital files in the long term should be put in place.

Although 'certainty' and 'trustworthy' are somewhat relative concepts here, as we never know what the future will bring, we would like to believe that VIAA does a good job in guaranteeing this and that the content partners count on VIAA to qualitatively digitise and sustainably store their digital files. How a sustainable digital copy is made and how it should be managed and preserved, is not the scope of this article. For this we'd like to refer to a whole list of other publications, as they can be accessed for example through knowledge banks such as the one of PrestoCentre.

### b) A five-step decision making framework

Taking this as a given, VIAA considered it its task to guide the content partners through the decision process of discarding carriers after digitisation, in case - and this is important - there is a need to do this. VIAA defined a five-step decision framework. Each step contains key questions that can help the content partner to make a well-considered decision.

### **Step 1: is disposal favorable?**

Disposing or discarding a (range of) carrier(s) is only favorable if it can enhance the collection and the functioning of the institution, and if there is sufficient capacity to carry out the disposal project properly. In order to provide good care of collections, well-trained and sufficient staff members are indispensable. Unfortunately, with funding in the cultural heritage sector under a constant threat, this cannot always be guaranteed.

Heritage managing institutions should carefully consider the need and the available capacity for the disposal of carriers. They should ask themselves the following questions:

- ***Will the disposal effectively improve the collection?***

The disposal of (a range of) carriers will make more storage room available for other carriers, the remaining collection can be stored more properly and better organized. It will also give the staff more time to spend on more urgent collection matters. The funds that were used for the preservation of the discarded carriers can be relocated to invest in new collection items or better conservation conditions of the remaining collection items. In case of disposal by sale, funds will be gathered that can be used to improve the collection or storage conditions for the remaining collection parts.

- ***Is there capacity to carry out a discarding project?***

Discarding carriers should be understood and handled as a project. To carry out a project, one needs funds, staff and time. The project should be well prepared and executed: sorting out the carriers that qualify as to-be-discarded, decently documenting each step in the process, carefully running through the decision framework, consulting a team of experts (preferably internal as well as external), exploring and preparing a manner of discarding, etc. Related to this, another important question is: does the management support the project?

If the answer to the questions above is no, the discarding process should already stop here. If the answer is yes, and enough capacity is guaranteed, the discarding process can continue to the next step.

### **Step 2: is disposal possible?**

Museums and archives are in some cases not the owners of (the rights on) their collections, but merely keepers. As a consequence, in some cases they don't have the right to dispose of the collection items. Also issues of copyright might be applicable, and not only when it concerns works of art. In the case of art works the (heirs of the) artist should always be contacted when disposal is considered, because the intentions of the artist should be taken into account.

Heritage managing institutions should carefully consider the rights and ethics that could forbid or obstruct them to dispose of collection items. It may be necessary to consult a legal expert. The questions below only touch the surface of the rights issue when it comes to discarding carriers. But institutions can already start by asking themselves the following questions:

- ***Are there property rights applicable on the item or collection, were specific agreements made with the donor of the collection item, are they written down in a contract and what do they say about discarding the item? Is the preserving institution even the owner of the item?***

A donor can offer an interesting item to a museum or archive, but it happens that he/she specifically demands that the object will be displayed and will never leave the collection, in order to be accepted. If this is the case the heritage managing institution has got two options: to stop with the discarding process immediately, or to contact the donor or his/her relatives to see if they want to change the conditions of the contract or if they want to take back the item. An item can also be deposited. In this case the preserving institution is not the owner and has no right to perform a disposal. If the item is a long term loan that belongs to a private collection or another institution, arrangements can be made to send it back to the original owner.

- ***Are there copyrights applicable on the item or collection, and did the maker of the carrier write down his/her demands concerning the item as an art object?***

It can be the case that an artist intended to use a specific type of carrier for the artwork. If so, one cannot choose to make a digital copy and get rid of the carrier, because the carrier is an intrinsic part of the artwork. The same applies here: the creator or his/her heirs should be contacted to discuss the actions taken to preserve or discard the carrier. It is advisable to contact the legal department of the institution or a legal expert to sort this out.

If the answer to the above questions is yes, collection managing institutions should consider the mentioned options or stop the discarding process here. If none of these rights are applicable, they can continue to the next step.

### **Step 3: is the carrier 'valuable'?**

When dealing with audiovisual materials, it is in most cases the content that predominates the value of the physical carrier. Once the content is digitised and sustainably preserved, one could in those cases argue that the carrier is of minor importance. However, collection managers should ask themselves what exactly has been digitised. In most cases it is only the content and not the carrier, the related technology, the history, or something as trivial as the scent (see the anecdote described by Seely Brown & Duguid, 2000, p. 173-174) that were digitised. All of these may be essential to fully understand the meaning of the item, and again not only when talking about of a work of art.

This brings up the question of the appraisal of the carrier as a physical item on itself: there are hundreds of analogue audio and video formats, some even more fragile or rare than others. Is it an archive or museums job to preserve these formats for the future? Or could it be enough to preserve one *specimen* of the physical carrier, if one wants to understand the technological context of production, preservation, dispersion and demonstration of audiovisual carriers within a hundred years? And if we opt for the latter, can arrangements be made between (regional) archives and museums: who preserves what?

Cultural heritage institutions should carefully consider if the carrier they want to discard is valuable to their collection or unique in any way, and ask themselves the following questions.

- ***Does the content or carrier have a significant value within the collection? Which place does the audiovisual collection or the carrier take within the entire collection: main or supporting collection?***

It is advisable to define the mission of the institution, if this is not already the case. In the mission is determined what the institution represents and thus what it collects, in other words: the identity of the institution. Depending on the mission, it can determine if the audiovisual collection is a main or a supporting collection. Generally, the supporting collection will be of minor value for an institution. For example, for a museum of contemporary art an audiovisual object can be of main importance (as an art object), while for a museum for handicraft the audiovisual collection is more likely to serve a supporting purpose. The appraisal of any collection item is also linked to the collection management planning or profile of an archive or museum. The word appraisal or 'value' is not easily definable, the value of a carrier can be economical, cultural, historical, etc. Collection managers should check out the collection management planning or profile to determine what sort of value an item holds within their collection.

- ***Does the carrier have an important link with the content (or vice versa)?***

It could be that the creator of the content had a specific reason to make use of a certain carrier type. An example can be that an artist intended to use film and not video, to create a specific effect in which the viewer also hears the rattling sound of the projector as part of the 'total experience'. The rattling of the projector is an intrinsic part of the artwork. If this is the case, one cannot make a digital copy and discard the original

film because one would lose a part of the artwork. Collection managers should at least try to take into account the intentions of the creator.

- ***Is the carrier format unique or rare when it comes to the technical characteristics?***

Also the carrier itself can have a certain value. Not only very old carrier types, but also more recent but rarely used carriers can be interesting to illustrate audiovisual and technological history. The technical characteristics related to the carrier, as well as to the recording and playback process can be interesting for future generations.

If the answer to at least one of the above questions is yes, one should reconsider the disposal and stop the process here. If not, the process can continue to the next step.

#### **Step 4: are preservation conditions suitable?**

Audiovisual carriers demand special preservation conditions that archives and museums cannot always guarantee. A relatively cold and dry environment, free of dust and air pollution is desired. The carriers will degrade quicker if these conditions are not fulfilled.

Not only very old and fragile audiovisual carriers (like wax cylinders), but also more recent carriers (like the CD) are subject to different kinds of deterioration. What is certain is the fact that the carriers will only degrade more over the years and in the end it will even become impossible to play them due to this degradation. However, when exactly it will become impossible to play them is not clear in advance. This can only be determined by regular checks. Still, there is a good chance that old tapes can still be played, e.g. for re-digitisation, if the right equipment and expertise is available. Hereby one has to keep in mind that the costs might increase as the condition becomes even worse.

Heritage managing institutions should carefully consider if there is a real preservation issue for the carriers. They should ask themselves the following questions:

- ***Are the storage conditions unsuitable for this carrier type?***

As mentioned, audiovisual carriers should be stored in relatively dry and cold conditions: an average of 20-30% RH and 12-17°C, even colder for film (we refer to other sources for more detailed information on climate specifications). However, this is a climate which might be not well tolerated by other archival or museum objects. A separate storage room for audiovisual carriers is desirable, but is a huge investment for sometimes only a relatively small collection. Many institutions cannot guarantee these conditions, but carriers will degrade more quickly if these conditions are not met. Even if the carrier is still playable, will it still be in a few years if it remains in the same conditions?

- ***Is there a pressing lack of space, or is there an actual problem that causes the removal of carriers from the storage?***

Very few archives or museums have storage room to spare. Luckily, in many archives or museums the further increase of analogue or carrier-based audiovisual collections will slow down and ultimately even end due to the change from analogue to digital or from carrier-based to file-based production. But since many heritage organisations do not store their audiovisual collection in separate, specialised storage rooms, the possibility exists that the space where audiovisual carriers are stored is required for the storage of other collections than the audiovisual collection. The overall collection often grows faster than the available storage space in archives and museums.

If the answer to one of the above questions is yes, one can continue to the next step. If not, the process can stop here.

#### **Step 5: is the carrier at risk?**

If carriers have been stored in unfit conditions for long time, severe deterioration problems can occur. However, for some newer formats such as CD's, the age alone can cause the carrier to become unreadable. For older formats, playback equipment can become scarce and this is essential if the content predominates the carrier: if there is no more playback equipment available, keeping the carriers is useless.<sup>1</sup>

Institutions should carefully consider in which state the carrier and/or the available playback equipment is. They should ask themselves the following questions:

- ***Is the carrier heavily contaminated with mold, vinegar syndrome, or other degradation? Can this carrier affect or be harmful to other carriers?***

Audiovisual carriers can get contaminated with mold due to humid storage conditions. Film can get affected by the vinegar syndrome. Both types of deterioration can rapidly affect other carriers that are stored in the same place. Conservation or restoration actions, as well as isolating the affected ones can be very costly, so collection managers should always consider if the carrier and content is worth the investment.

- ***Is the carrier obsolete, or is the content unreadable?***

An interesting example is CD-R, which is a relatively recent format and still in use. In general, CD-Rs are expected to have an average life expectancy of 10 years. As well as degradation of the dye, failure of a CD-R can be due to the reflective surface. While silver is more widely used, it is more prone to oxidation. Gold-based CD-Rs do not suffer

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<sup>1</sup> One might hope for the emulation of extinct playback equipment, but history has proven this to be very rare and usually very expensive.

from this problem, but are more expensive and no longer widely available (IASA, 2014). VIAA just ended a CD-R digitization project in which 18% of the carriers proved to be unreadable, even by trying several kinds of data extraction.

- ***Is the playback equipment (or spare parts for the equipment, or the expertise for repair) for this type of carrier rare or nonexistent?***

Although cultural heritage institutions often don't own playback equipment for analogue carriers, there are often still players available that can be loaned, hired or bought. It is however important to note that even though for many playback technologies devices can still be found on the market, players as well as repair parts and the expertise to install them will become harder to find in the near future, which means that costs for (re)digitisation will rise. Institutions that don't have the players at hand cannot consult the content, which makes it difficult to (re)use them in exhibitions, by researchers, etc. Providing a digital copy may solve this issue only least partly, thereby making the analogue carrier dispensable.

If the answer to at least one of the above questions is yes, one can make the decision to discard the carrier and move on to making a decision about the way of discarding. This is the end of the decision process.

### III. The disposal itself

Once an institution has run through all the steps above, and it has decided to discard a (range of) carrier(s), it can start with the actual disposal. There are different kinds of disposal or deaccessioning. In any case thorough research should be done, different options should be considered and an interdisciplinary team of (internal and external) experts should be consulted.

#### **a) Donation, transfer or exchange between cultural institutions**

This can be considered a good practice when for example a museum is looking for an audiovisual object for its technical characteristics, rather than for its content, and an archive has this specific item but it is no longer playable. If the archive is ready to dispose of the carrier, then a transfer to the museum (and the terms) can be negotiated.

#### **b) Sale between cultural institutions**

This is not a good practice and is not recommended.

#### **c) Sale to the public**

This is a difficult one and can only be motivated when the profits are used to enhance the collection, either by improved preservation measures or by acquisitions. It is very important to

communicate about this carefully and properly, in order not to harm the reputation of the institution especially when it concerns public good.

#### **d) Degradation**

It can also be an option to 'degrade' a carrier from museum object to working or didactic collection. This option has several advantages:

- No cost for destruction
- No negotiations with external parties needed
- The object stays within the walls of the institution ('invisible' discarding)
- No more preservation costs

However, not every institution has educational activities, where audiovisual carriers can be used without specific relation to the content.

#### **e) Elimination or destruction**

In the case of audiovisual carriers, this is the most preferred option. Magnetic carriers are considered as chemical waste, and should not just be thrown in the bin. They should be processed by specialized waste processing companies. They usually provide containers, and charge by the kilogram.

## **IV. Conclusion**

In this article we have discussed a decision making framework that institutions managing audiovisual carriers could follow while deciding about discarding their carriers after digitisation. Doing so, we have dealt with difficult questions that often have been circumnavigated cautiously in the past. We have tried to take a realistic approach, in the sense that we acknowledge that funding of cultural heritage institutions is not guaranteed and that the degradation of physical objects and the disappearing of playback technologies is a given. The fact that we try to deal with these issues, does not mean that we don't agree with the principle that the physical audiovisual carriers should be preserved. We have tried to formulate a solution for cases in which this principle has to be left behind.

From our work it is clear that this decision process is never quick or easy. 'Look before you leap' may sound as a cliché in this case, but it is the best advice we can give. To facilitate this consideration, we propose a five-step decision tree, based on particularly heavy, but also necessary concepts as favorability, possibility, value, preservation conditions and the risk for other carriers.

Summarizing this, we would like to stress some returning arguments in this five-step approach. The first is to take a positive approach: disposal of collection items should always be for the benefit of the collection, the institution and even of the local, regional, national or even global heritage. One should always start a disposal process with the goal to enhance and improve the collection. Next to that an interdisciplinary approach is always recommended. Disposal is not just a question of collection management. It is as well a legal issue, an ethical issue and even an environmental one. Thirdly, the importance of documentation should not be neglected either. If circumstances force us to leave a key principle of preservation, being to actually keep the carriers, we should at least document these circumstances as well as the decision process and the way we executed our actions of disposal, for our successors to understand. Somewhat related is the importance of communication. Discarding heritage is not something any stakeholder of a memory institution would expect them to do, but that doesn't make it less inevitable at some point. In order to keep its legitimacy, the communication by the institution about the process therefore should be transparent and open, before, during and after the disposal itself.

VIAA will pay sufficient attention to these returning aspects while advising its content partners. We'll check and recheck our framework with experts in the field and we will test our admittedly theoretical framework in practice. It is up to our content partners to decide whether they accept our argumentation and whether they find it useable in practice. As this discussion is a reflection of a historical and therefore evolving thinking about heritage *par excellence*, we hope that the discussion will continue to live, because we believe that what we keep, is also defined by what we decide not to.

## Bibliography

Bergevoet, F., Kok, A. and de Wit, M. (2006). *Leidraad voor het Afstoten van Museale Objecten*. Amsterdam: Instituut Collectie Nederland.

Goos, A. (2015). *The analog archive beyond digitization*. Presentation on FIAT/IFTA World Conference 2015, Vienna.

IASA Technical Committee (2009), *Guidelines on the Production and Preservation of Digital Audio Objects*, ed. by Kevin Bradley. 2nd ed. (= Standards, Recommended Practices and Strategies, IASA-TC 04).

IASA Technical Committee (2014). *Handling and Storage of Audio and Video Carriers*, ed. by Schüller, D. and Häfner, A. (= Standards, Recommended Practices and Strategies, IASA-TC 05).

IASA Technical Committee (2005). *The Safeguarding of the Audio Heritage: Ethics, Principles and Preservation Strategy*. 3rd ed. (= The Safeguarding of the Audio Heritage: Ethics, Principles and Preservation Strategy, IASA-TC 03)

ICOM (2013). *Code of Ethics*. [online]  
[http://icom.museum/fileadmin/user\\_upload/pdf/Codes/code\\_ethics2013\\_eng.pdf](http://icom.museum/fileadmin/user_upload/pdf/Codes/code_ethics2013_eng.pdf) [accessed 31 Mar. 2016]

Mäusli, Th., Herold, P. and Looser, H. (2014). *Digitalisierte historische Archivbestände. Was geschieht mit den Originalträgern?* [Unpublished internal working document of Radiotelevisione Svizzera Italiana], v4.

Mäusli, Th. and Steigmeier, A. (2010). Service public-Medien und Kollektive Erinnerung. In: *Schweizerische Zeitschrift für Geschichte: Schwerpunkt Mediengeschichte* 60(1), Geneva / Basel: Schweizerische Gesellschaft für Geschichte.

Memoriav (2016). *Memoriav Positionspapier: Physische Datenträger audiovisueller Dokumente nach der Digitalisierung: behalten oder vernichten?* Bern: Memoriav.

Pellizzari, P. (2015). Original Physical Recordings of Audiovisual Documents: Preserve or Destroy After Digitizing? In: *IASA Journal* 45(2), London / New York: IASA.

Seely Brown, J. and Duguid, P. (2000). *The Social Life of Information*. Watertown (MA): Harvard Business Review Press.