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Internationale Vereinigung der Schallarchive

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EDITORIAL

Grace Koch

This issue is coming to you late, in fact, it is almost like a Christmas present! I wanted to be sure that all relevant material was available because this will be one of the most informative issues ever printed about IASA and its directions for the future. I have tried to print the Board session on future directions with minimal editing, although this provides some lengthy reading. Please persevere with all opinions expressed, form your own, and write to me with responses for the next *Bulletin*. The deadline will be 30 March, 1993.

I wish that all IASA members could have attended the Canberra conference-- one of the most exciting and exhausting ones ever! For those who missed it, I have included several photographs of the special welcome by Aboriginal people and Torres Strait Islanders, both in word (Adnymathanha and Meriam languages as well as in English by the Principal of my institution) and in dance and song that was extended to delegates at the National Library of Australia. All papers presented at the conference will be printed in this and the next issue of the *Phonographic Bulletin*.

The major part of this issue is devoted to future directions for our organisation. Also, five of the ten presentations from Australian institutions are included, as well as photographs of the presenters. You will also find a substantial section on copyright. Those papers range from review of the international situation to examination of copyright in a country where copyright as we know it does not exist, namely, Papua New Guinea. I also include two of the major technical papers dealing with treatment and preservation of magnetic tape. There was lively interaction with the manufacturing industry about some of the points examined by the two papers; if you have any comments about the findings, please respond to me.

Pekka Gronow, the new Reviews and Recent Publications Editor, will be communicating with you in the next issue. However, I have listed several of the publications on media archiving put out by UNESCO and others that all members should have as well as where to order them.

Please be advised that the next issue of this journal will bear another name, the name that we on the Board feel reflects the true essence of the publication-- *IASA Journal*. We shall number it anew, so your issue #62 will be #1 in the new series.

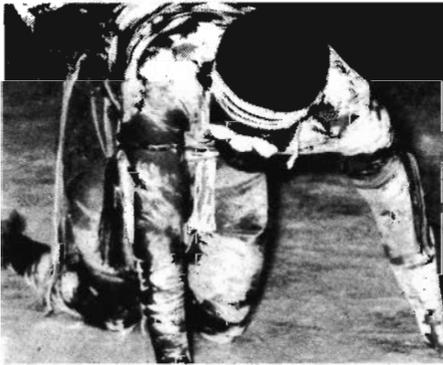
May I draw your attention to the questionnaire enclosed for the new Directory of IASA. One of the major issues raised by the membership at the Canberra conference was that of communication. Our last directory was dated 1982, and we have all changed dramatically since then, hopefully for the better? Gilles St. Laurent would like to hear from you as soon as possible so that he can compile the new directory on-line.

And finally, IASA elections for the Board will be held in 1993 with results announced at Helsinki in August. I have found my membership on the Board to be one of the most challenging and positive experiences that I have ever had; however, it is now time for a new Editor! Please consider standing for this office or encouraging others to do so.

Enjoy this issue, and please respond to it. I will be most happy to hear from you!



Torres Strait Islander dancers



Aboriginal dancers



Dr. Bill Jonas, Principal, Australian Institute of Aboriginal and Torres Strait Islander Studies



Christine Coulthard, Adnyamathanha and Aven Noah, Meriam, welcome delegates



Gerald D. Gibson, President, IASA



James McCarthy, President, ASRA



LETTER TO THE EDITOR

A RESPONSE TO RAY EDMONDSON'S "TOWARD A PHILOSOPHY OF AV ARCHIVING"

Margaret McBride, Mary Ledwell, Public Archives of Nova Scotia, Halifax

Unlike Mr. Edmondson, we feel that audio-visual archives are very much a part of the profession of Archival Science-- just as entertainment lawyers are part of the legal profession and film librarians belong to the profession of Library Science. Mr. Edmondson's argument, that there are fundamental philosophical differences which make A-V archiving its own distinct profession, is erroneous.

Archival Science is a genuine profession/discipline with its own ethics, concepts, terminology, literature and methodology developed over centuries of study and practice and recognised worldwide. The primary principles of Archival Science apply to all media acquired by archives. All archivists acquire, preserve and make available recorded information-- of all media types-- while observing the fundamental principles of provenance and respect des fonds. Even though some media require special care and handling, the primary functions and guiding principles of our work apply across the board. If Mr. Edmondson were to examine archival functions in other archives, he would find that the issues and concerns he feels set audio-visual archivists apart from other archivists are not as distinct as he might think.

He would find that the audio-visual archivist is not alone in "perceiving all aspects of the nature" of documents. All archivists must be concerned with the differing values of archival documents for a wide variety of users. This analysis of "values" is at the very heart of the appraisal process.

Archivists working with any media form must be concerned with cultural context. The thought patterns and conventions of the day provide the framework from which to perform the functions of acquisition and appraisal. Similarly, concern with issues of copyright and confidentiality are not restricted to audio-visual archivists. These are important issues for all media.

Few would argue that special training is required to adequately care for audio-visual records; however, all media require specialised care and handling-- from paper (analysing paper content to determine whether the document should be copied onto a more stable format) and photographs (identifying various processes and making judgements about which need immediate attention) to the complex and costly storage requirements of machine-readable records. All require a significant degree of technical expertise.

With regard to "coverage", Mr. Edmondson puts forth the argument that A-V archives should operate as a library and museum, as well as an archive. Archives should not be

involved in the acquisition of books and museum artifacts. Organisations already exist to fulfil this function and are better equipped to do so.

Mr. Edmondson states that when his archive moved to its current structure it was "based on function not medium". We feel this is of key importance to this argument. Separating audio-visual archivists and their collections from the rest of the profession is creating an artificial distinction based on medium-- not function; and the *primacy of original function is a central concept in Archival Science.*

For example, a typical fonds collected by an A-V archive would be the records of a motion picture company. The primary function of this fonds would be the creation of motion pictures for the purpose of making a profit. The records that are created and accumulated as a result of this business endeavour-- the fonds-- would have a variety of media represented: operational records (such as correspondence, personnel records, etc.); administrative records (i.e. contracts, minutes of meetings, etc.); publications (i.e. newsletters, flyers, catalogues, etc.); graphic records (i.e. stills, posters, etc.) and sound and moving image records. In order to be able to appraise, select, arrange, describe and make available all records in the fonds within the context of their creation, the archivist must first understand the fundamental principles, concepts and methodologies of Archival Science. Then as the archivist begins to deal with the various storage and conservation requirements of each series of media, special methodologies and skills will come into play.

However, to satisfy Mr. Edmondson; even within the boundaries of the archival profession as a whole, A-V archivists do have their own distinctive terminology. Archivists who work primarily with 19th century paper records cannot be expected to understand articles dealing with the technical aspects of the conservation of A-V records (taken from IASA and other SMI publications). The literature published by IASA, FIAT, FIAF, ARSC, etc. is definitely distinctive from those published by records management associations. The methodologies and skills required to appraise and conserve A-V documents (at a technical level) differ completely from those required to assess a sealed document on parchment. These special requirements relate primarily to the physical needs of the media. When it comes to the methodologies of appraisal, selection, arrangement and description, our approach is based on the same fundamental concepts as those governing other archival collections.

As society's methods of recording information become more technically sophisticated, the archival profession should strive to discover ways of accommodating this material and of dealing with multiple media fonds; rather than dividing into separate camps on the basis of media form, and "creating" new professions.

TOWARDS 2019 OR IASA AT 50

IASA Board Members

Presented at the Open Board Session at the IASA/ASRA Conference, Canberra, 1992.

INTRODUCTION (Gerald Gibson)

The title "Towards 2019, or IASA at 50" describes the purpose of this session. It is the outgrowth of many discussions by a number of the entire IASA membership over many years. For some of us it began to coalesce in Sopron with Ray Edmondson's keynote paper, which has been since published in *Phonographic Bulletin* No. 60, May, 1992. Ray's presentation and the discussion which followed acted as a catalyst for many exchanges during the Sopron conference. These culminated in the comments and the working meeting of the representatives of the various IASA affiliates- ASRA and ARSC and AFAS, for example, and the like, of the national organisations, of the committee officers and of the Board.

The general tone of that final working session in Sopron was where are audio and moving image archives going and what should our association do to be in a position to help sail that course. Following that meeting, three members of the IASA Board took on an assignment to pull together the essence of those Sopron discussions, to deliberate upon these questions, and to come to our midyear Board meeting ready to lead the discussion on this vital part of our itinerary. They did their job very well and their thoughts and suggestions were indispensable in our deliberations in Maastricht where we debated, sometimes fairly heatedly, exchanged ideas and views, and generally brainstormed the topic.

At Maastricht we agreed to bring a condensation of our thoughts to you in Canberra, and to ask for your views and ideas on the topic.

I shall present a perspective of where we on the Board anticipate AV archives will be in 2019-- the year when IASA will be 50 years of age. Following this, brief summaries will be given by each of the Board members on one or another of the topics which we feel are of major concern and pose potential, if not major, problems. They will conclude with our vision on how these problems can best be addressed and resolved.

We will address the topics in alphabetical order: access, availability and user interaction, administration, political environment, legal and copyright, cataloguing, bibliographic control, development of the profession, training and certification, preservation, restoration, re-recording and storage, and selection, and acquisition. We will give summaries of our thoughts, and please bear in mind they are only our thoughts on these issues. Our presentations will be direct and, hopefully, succinct, and will aim to allow adequate time for group discussion.

I wrote to each of the committee chairs asking them if at all possible they could include some of their working session time for discussion on the topics most specifically pertinent to their committee and to include a summary of those thoughts and conclusions or need for further discussion, consideration, and debate, in their report to General Assembly II.

Finally, and most importantly, since we all know that all of our membership are not able to attend these conferences, please put your thoughts on these topics and any other which you feel should be included in this exercise onto paper, and send them to Grace. She will see that they are organised and included in a written summary of the discussions and presentation of this subject for dissemination. It's not necessary for you to have thoughts on all of the topics listed, but we hope you do. It is important, however, that you have specific points to make on at least one of the issues, since they concern every one of us.

Whether you support or give differing views to those of the Board is immaterial since it is the breadth of our group perspective that is being sought. It is very important that you, as leaders in our profession prepare and share your thoughts and perspectives into our profession.

What then does your Board believe 2019 will have and be for AV archives? We see the coming period to be one of major change. We believe that the several efforts being made to provide on-demand world-wide access to all of the accumulated knowledge, including audio and moving image data-- along with their supporting documents must merge into a coordinated, collaborative whole. This means that for the cost of relatively inexpensive equipment, comparable today to a laptop computer or less, and for connect time-- possibly through a telephone or through some other communications means-- virtually any person in the world will be able at any time of the day or night to see, hear, and study the various parts of any of our collections from the comfort and convenience of their chosen work site. No longer must they have what amounts to privileged knowledge of what is in a given collection and travel to that geographic site, and, for the limited hours that our collections are open for their use, sit and access the data that they wish to have.

We believe that coordinated conservation and preservation will be a reality. Since Archive A, if our above presumption holds true, can see and hear what Archive B has, including the completeness of the copy, its quality, and its provenance, they can easily discern if the copy they have is unique or is more complete than those already available to the shared resources.

We believe that the wealth of information available through the best of today's technology, through the world's libraries and archives, through publishers, through broadcasting facilities-- whatever those facilities may be today-- will be so drastically overshadowed by the scope, depth, and technical quality of data that is available in this on-line demand basis-- that the future will look back on our time-- the late 20th and early 21st centuries-- as being parallel to Europe in the 1430's and the 1440's-- the period immediately prior to the introduction and acceptance of moveable type to Europe.

We are concerned that the "haves" and the "have-nots" of the world will be even more widely separated because of such massive dependence upon technology for producing, storing, accessing, and distributing its information. We believe, however, that the potential for such an abundance of information at so comparably inexpensive a price can reduce this gap and bring about greater acceptance and understanding of the differences and the similarities between the races and the cultures of the world.

Finally, we fear the potential for information control, modification, or distortion such is envisioned in George Orwell's *1984*, and we fear it is very real. Yet we believe that the potential gains for society are such that means must be found to prevent such misuse and manipulation of information.

Assuming that you can accept even a small part of our forecast, and that you agree that the availability of such quantities of information is desirable, and will help to make this a better world in which to live, the questions are:

What then does IASA need to do to assure that archives are ready for this "brave new world," this challenge for the future?

What are the problems of our profession that would slow such an evolution? What do we, as the administrators of the collections which hold much of this data need to do to make sure that the information which we have helped to acquire, organise and preserve, is available in undistorted form to share with our fellow residents of the earth?

ACCESS AND AVAILABILITY, USER INTERACTION (Marit Grimstad)

An archive that is not accessible is not an archive but a storage house. I hope there are few archivists left in the world of the old type that collected for the sake of collecting and not with the hope that what we collect today would be of use for future generations.

There are two main types of access to an archive: long distance access that is on a national or an international level, and on-premises access in the archive or library. I do believe that the situation in 25 years time will be what Gerald just described to you with the possibility of worldwide access by telecommunications. Two strong points today in how to reach this goal are that much of the needed technology does already exist and that most archives today already are computerised.

Some weaker points in today's archiving world that will slow our progress in reaching our goal are:

- lack of finance to exploit the possibilities or lack of finance in smaller archives to exploit existing technology

- legal problems- that is, copyright problems

- long-distance data access both of archival documents and of the catalogues

- the lack of standard formats for cataloguing-- both in the way we catalogue and in computer formats-- eg. lack of standards both for hard and software

- transmission times for the archival document

- finally, the unwillingness of some archives to share their collections: The idea, "My home is my castle."

The Board agreed that the unwillingness to share the collection is a weak point in today's archiving world; however, I don't think this is always so, and I will give you an example. In most European countries, broadcasting has been State protected and State run, and we have had no competition. Now the situation has drastically changed. We are thrown out into a very competitive world where we have to fight for our listeners. In this situation, the national broadcaster sees the archive as one of the main competitive assets. We have 50 years of radio history in the archives that the new radio stations are dying to get their hands on, so we don't want this open access. It is a strong point for certain archives.

In 25 years time I don't think we all will sit in our homes and access archives all over the world. We will still have the traditional user who comes to the archive to get help from an archivist or a librarian. His access to the archive depends a lot on the quality of the service he receives. We archivists and librarians, we always think we give very good service. We think we do our best; however, the Americans have something they call the 55% rule. Two

Americans by the name of Hernon and McClure conducted a survey on quality control of reference services in libraries, and they found that 55% of the answers given by librarians were either completely wrong or very much lacking in information. A survey done in Danish libraries shows similar results, and I would say that if sound archives are no better than this, access is a very weak point.

Now to the problem solving. *What can sound archivists do to change the situation?* IASA can take topics such as copyright, long-distance data access, and standardisation of formats, to the Round Table and work together with other archival organisations to ensure standards for all. I think it is important that IASA doesn't go alone but works with other non-government organisations to ensure international standards.

IASA, of course, is not a body for developing technology, but I think IASA, especially through the technical group, can work to influence the manufacturers to develop the right technology for archival use.

The other weak points I mentioned about access, such as cataloguing standards and legal problems, will be addressed by other Board members. When it comes to user interaction and quality of the services rendered I think that IASA can do a lot as quality management and quality control of these types of services are a relatively new field and few standards for quality have yet been set down. It is therefore important that IASA get into this work so we can influence world standards.

POLITICAL AND ADMINISTRATIVE ENVIRONMENT (Giorgio Adamo)

I would like to present only some general remarks on a topic which has not been greatly considered in IASA's activity until now. I will speak on administration in very general terms, particularly in regards to political environment.

We should pay attention to the political and institutional status of sound archives, of audiovisual archives. Also, while we are considering the future of IASA, we should examine the future of archives as institutions. This examination must take into account the context in which we work and in which we live. In addition, the political and financial situation in many countries does not make our work easy. I know Italy is not the only country that has problems at this moment. In many situations we have to deal with cutting of financial support to cultural activities, to institutions, and so on. Furthermore, I think we should see what is happening outside our archival circles because this could become very important for our future.

Another problematic aspect is the cultural context concerning our activity. I mean, while we are here speaking to one another in our cultural context, we speak in terms which are obvious to us when we say that we are preserving an important part of the cultural heritage--that what we preserve has a deep human value. But I wonder if outside our professional world there is the same awareness of the value of what we are doing, of what we preserve. This is important because we see that around us everything is moving towards commercialisation, and there is the risk that we could be forced, or to some extent, to feel the pressure to move towards commercialisation. This could be one of the real problems in the future.

Our archives are independent of (or operate actually against) the logic of the market. We know for example that if the market could supply us with an infinite number of duplicate carriers, and if what we are preserving in our archives can also be easily found in a shop, the situation would be different. Therefore the maximum value of what we preserve in our archives is sometimes due to the fact that what we preserve is not available on the market.

This is particularly true for archives within IASA, for example, national archives or research archives.

However, we should not forget that in many cases the important role of the archive is to produce documents, to produce unique recordings. We do not consider this aspect seriously enough; we are much more concerned with the problem of preservation. I would like to see some papers and discussion about producing documents and recordings in one of the future conferences. This could be also an important part of our role and an activity that could increase our status.

So, what can we do? I think that we should go outside our restricted archival world and find out all possible ways to increase the awareness of the importance of our institutions. I see that we can move in two directions. One is, of course, to address governments and international bodies and institutions. Here, probably, we have a strong point. We have our status in UNESCO, for example, and we could use this international status in trying to speak to our governments.

Secondly, we should address the users and potential users of our institutions. Perhaps we should look into activities like advertising or marketing. I was quite surprised to see here in the Canberra tourist guide a nice description of the National Film and Sound Archive as one of the places of interest for tourists. I was much more surprised in learning from Kurt Deggeller that, while he was flying to Rome, he found, in that kind of magazine you find in the plane, a half page devoted to the Discoteca di Stato, our institution in Italy. I have no idea who wrote that. I am curious to see! I wonder if this way of reaching people-- of circulating information-- could help us to increase our role and status. Also in marketing, like for example, here in Canberra is a shop in the National Film and Sound Archive. I couldn't imagine something like this in my institution-- selling t-shirts with Discoteca di Stato or something like this, but maybe we could consider such an activity. In summary, I believe it would be good if we could start to think a more about these problems which concern our role and status in our society.

LEGAL AND COPYRIGHT (Sven Allerstrand)

Twenty-five years is, indeed, a very long period of time and it's almost impossible to predict where technological development will bring our profession by then. My guess is that the different media-- text, audio, and video-- will continue to converge and it will be possible to reduce the storage space dramatically, which means that the costs will decrease. There will be automated systems for retrieval, access, preservation, and so on. These will give us the possibility of having more ambitious preservation programmes than we have today. This will be necessary, because the market for sound and images will definitely increase. In this perspective, I can see two major legal issues which have to be dealt with on an international basis.

The first is to include AV material in the legal deposit system that already exists in most countries for print material. I'm more optimistic than Giorgio on this point because I think that the importance of sound and moving images will be more obvious, and I am convinced that there will be a growing awareness of the fact that these media must be systematically preserved to the same extent as books and other printed publications.

Since the task is so enormous, it is essential to avoid duplication of work, both on a national and on an international level. Radio sound archives, national archives, and other specialised archives must work closely together with combined efforts instead of rivalry. The basis must be an international agreement where every country is responsible for the storage, preservation, and the documentation of its own productions.

An important task for the international AV archive organisations will be to produce a model legislation, perhaps with different levels, for AV material. I know that a lot of work has already been done in this field, in France and by UNESCO, for instance, and this provides a good basis. But we have to transform this work from suggestions and guidelines into recommendations which have been agreed upon within our association. Otherwise there is a risk that this legislation will just be an extension to the existing laws. The job will be done by lawyers, librarians, and or paper archivists with not enough attention being paid to the special characteristics of our media.

The other legal issue is to provide access and availability to our collections. Sound and moving images are internationally spread, as we all know. In Sweden we can listen to and watch records, films, and TV programmes from all over the world. And I was especially happy to see a Swedish film on television here in Canberra the other night. These records are an important part of our everyday life, and they have, of course, a big impact upon our society and culture. Therefore it is necessary that they should be easily available-- the foreign material as well-- everywhere for all who have a need for that. And I am one of those who feel that it should be considered a public right to get access to the audiovisual heritage; not only for research and educational purposes but also for everyone who can show a serious interest and a reasonable purpose for their use.

So, in my opinion, a condition for shared responsibility on an international level should be that the material could be easily available to all, not only in the country of origin. The technical means for advanced distribution of recorded sound already exists, as we have seen earlier this week. So the important legal issue for an international archive organisation in this context is to try to minimise the restrictions caused by copyright legislation and international conventions for a reasonable, non-commercial use of the material.

First, we have to look into the present situation. What can we legally do today? Who can get access, and under what circumstances? What kind of copies are we allowed to make? After that survey, we should try to formulate a common policy for how we, as AV archivists, would like to make our collections available. This policy could be used to influence legislative bodies in order to get special provisions for sound and AV archives, both international copyright laws and in international conventions.

This will certainly be a difficult and laborious task. We will have to fight with very powerful copyright organisations and I think it could only succeed by strong international cooperation with combined efforts for all AV material. And I certainly hope that IASA will play a leading role in that work.

CATALOGUING AND BIBLIOGRAPHIC CONTROL (Grace Koch)

As all of us speak, the same principles appear again and again. I will repeat a lot of what Marit has said and also, I believe, Sven, in the following section.

The strengths that we see in our present systems of cataloguing are:

- There has been an increase of computerisation within organisations and the joys and trials that that brings.
- Some cataloguing rules do exist within organisations, such as FIAF, for our perusal. We need to be looking at all of these rules and seeing what is applicable to our needs and for standardisation.

- There is also experience within the organisation for creating various thesauruses for various sorts of needs.
- We have a very good position within the UNESCO Round Table for communication with other organisations.

The weaknesses of cataloguing as we see it in relation to IASA are:

- A lack of standard formats.
- Along with this, a lack of standard cataloguing rules.
- A need for a thesaurus. This may be a debatable point amongst some of you.
- A lack of communication with other organisations.
- IASA is not really a catalyst for international standards. This is something that we need to become.
- A lack of ability to exchange cataloguing data.

Some of the steps that we propose for solving some of these weaknesses are first of all, to find out what exists in cataloguing and documentation rules, throughout the world. Next, we need to see where these rules agree and disagree and to go through and resolve the differences. Then we would need to present the results for review and finally, agree to have them accepted as the international standard.

We also suffer very much from the lack of international standardisation of ADP systems. Some people have come to Canberra with diskettes and have found it difficult to get printouts.

We also need standardisation of names, subjects, and titles, and finally, there should be a shared possibility for cataloguing all media to avoid duplication. After all this work is done, we need a set of procedures to exchange data.

IASA could speed up this process of communication by funding and by establishing firm contacts for communication. A proposal for the implementation of such a communication project could hopefully go to the next Round Table.

DEVELOPMENT OF THE PROFESSION, TRAINING, AND CERTIFICATION (Magdalena Csève)

Information requirements have multiplied in a short time and the need for documentation is greater than ever. No matter where they work, archivists now face a far more demanding and complex task than ever before. While modern technology offers a more efficient means of storing and retrieving, it is certain to pose problems that touch the very core of the archivists' occupation.

We cannot avoid facing up to the consequences of the new ways people treat information. The question of identity and self-understanding is more vital than ever for archivists, both individually and collectively.

The intellectual development and training of the archivist needs to include the development of a conscious attitude of ongoing scientific research. This is urgent because the fields that are

essential to us are developing so quickly that we must make a conscious effort not to lose the scientific basis of keeping archival material valid for society now and in the future.

There are many criteria for being admitted to our occupation. Some demand a distinct special education; others demand no skill in or knowledge of archival work but they do require an academic education, mainly, in history. Accordingly, we appear to have various conditions for admission to our occupation, diverse approaches to the ethos of archival theory, contrasting assumptions about the purpose of our assignment, and lack of agreement about what the main fields of archival research are.

These differences have consequences for forging our identity as archivists, and it is, of course, impossible to give one clear answer to the question, "What is the identity of the archivist of today?" The question we may pose is, "What is the identity we need to obtain in order to remain faithful to the archives of the information age?"

Sociologists have analysed occupations and professions by isolating the specific criteria that make an occupation a true profession. The characterisation of a profession has several aspects. A true profession covers an area which is important to society. Its work is, so to speak, institutionally-institutionalised altruism. Society gives sanction and recognition to a profession, because a profession takes care of important tasks on its behalf. The true profession is also given autonomy needed to do its task. It makes its own priorities and assessments and doesn't allow others in its field of competence. It defines needs on behalf of the individuals or group it serves.

Every profession possesses a body of scientific knowledge and a comprehensive specialised education to transmit this body of knowledge to aspirants. This education should be the only road to the profession, and those who undergo it must have the motivation to become members of the profession. Each profession forms associations to promote common goals. The profession, through its collective efforts, controls its own standards, such as for education and certification, terminology, ethos, ethics. A true profession has a common culture of shared norms, values, and language. This can exist only if the members of the profession have a common comprehension of the nature of their work.

As you see, it is more relevant to put the question, "How far we have come in the process of professionalism, in proclaiming us as a profession or as a non-profession?"

Our being professionals and our striving for a higher degree of professionalism-- are undoubtedly beneficial not only to the archivist. This analysis is general and may be used in relation to any occupation. The aim is not to prove or to disprove that we form a profession but to see if certain features must be developed in order to strengthen our sense of being equal to the task which we perform for society. Thus we search for ways to develop archival theory, methodology, and practice for our time by building on and giving continuity to the principles and theory we already possess in order to meet the changes which come up so rapidly in the information age.

Undoubtedly we fulfil those criteria of a profession that involve the concepts of importance to society and sanction from society. We also possess a certain degree of autonomy. Our autonomy is, however, still far more weak, sorry to say, and limited than it should be, if we are to pursue our task, namely to maintain an archive that communicates to and exists on behalf of society. This will happen only if we continue to strive for the authority and the resources needed to carry out our work.

The criteria of science and association are linked with education and standards and are the means by which we advance our work. Through education and association we create

competence and self-confidence-- both of which enable society to understand us as a well-qualified group to undertake our responsibility and our tasks. Opportunities for the education of archivists are still weak in many parts of the world, even in the well-developed world, too. The lack of good educational possibilities is the Achilles' heel of the profession.

It takes a great deal of education to build strength and character into a profession. Archivists need the strength, character and integrity which is equal to the integrity of their archives.

Today the theoretical basis of education must aim to explain and define the special problems archivists face in order to keep and protect the archives of our society. If we promote and strengthen archival science and develop a relevant education for our occupation, we will prepare archivists to carry out a task that has been laid on them. Our ability to associate-- to reach common goals, like knowledge and education, is only an instrument of professionalism, not its essence. Such associations are formed by archivists all over the world. Associations facilitate the communication and interchange of ideas by publishing professional literature, arranging professional fora on many levels, from working groups to seminars and congresses.

It is obvious that IASA offers the most adequate facilities to develop the proper method of defining the occupation as a profession. Special courses, seminars-- both before and after the conferences-- can offer valuable help for this defining of the profession.

The need for common standards is strong in several fields. Technical standards, for example, are necessary to describe archives' holdings and to communicate knowledge of them at a time when we may capitalise on the tremendous power of technology to store and transmit complex information. Education is another field where the profession itself has to set the standards. It's of crucial importance that the framework of education is defined by archivists to ensure the highest possible standards of qualification and conduct.

Active associations warrant the quality and force of our work. They are an incentive to cooperation and professional development and contribute to a common professional culture, shared norms, values, terminology, ethos, and ethics. This common culture is the final criteria of our profession. Such a common culture presupposes a common understanding of our duties and is therefore both an instrument for and a result of our professionalisation.

SELECTION AND ACQUISITION (Helen Harrison)

You might wonder why this topic has been included in such a forward looking session, for selection is such a currently essential part of our work. It is a working principle of any archivist rather than the policy of an association.

Every archivist, let alone an audiovisual archivist, has a responsibility to organise, maintain, and make available the material within his/her care. Selection, therefore, is a central activity in the organisation of the collection. It is also closely related to acquisition. It is also a precursor to many of the activities we have been considering so far. In order to maintain and to use a collection, you have to form that collection; that is, you have got to acquire and select material for it.

Selection is a pivotal activity. Selection and acquisition policies produce a collection. To avoid a waste of resources on cataloguing, retrieval, preservation, and exploitation-- that is, the making available for use of the material-- we need stated principles and policies for selective acquisition.

Acquisition: We need to know what exists already often in several locations. Some collections have less problems than others, that is, in-house collections such as exemplified by the Radio Sound Archives or many Oral History Collections which are based on recordings made in the archive or radio station. Their collections are likely to be unique, not available elsewhere and worthy of preservation by the institution in which they are deposited.

Selection: A greater exchange of information on selection principles, both nationally and internationally, is required, and this is something in which IASA should become involved through contributions towards directories of members' holdings and the design and establishment of selection principles.

As I see it at present, there are few examples available of acquisition and selection policies. People are re-inventing the wheel rather than being able to rely on suitable, accessible advice. If more selection policies, guidelines, principles were issued in published or unpublished forms, people would be in a better position to sift the information and select suitable policies for their own situation-- they would not have to start from scratch, although they may well wish to amend and adapt principles to the particular situation and not wish to use another archive's policy in its entirety. There is an evident lack of standards or guidelines for all types of collection, both regional, national, subject-based, and so on. People seeking advice when forming a collection or trying to establish policies frequently have to resort to trying someone they know-- that is, individual consultation, or picking a name at random in the hope that they come up with the right one.

IASA should, really, be surveying its members and gathering information into a central data bank or clearing house for information regarding these policies and practices of selection and acquisition.

IASA should also be developing discussion on establishing standards of good practice. Although IASA has been involved in discussions concerning selection throughout its existence, this has to be a continuing process. In the early 1980's, for instance, the Association held a series of conference sessions devoted to the Selection process, and these were collected into one publication (ed. Helen P. Harrison, *Selection in Sound Archives*, 1984, IASA. NOTE: See list of IASA publications at the end of this issue for how to order.)

IASA was also commissioned by UNESCO to produce a publication on the archival appraisal of sound recordings. (Harrison, Helen P. *The archival appraisal of sound recordings: a RAMP study with guidelines*. PGI-84/WS/12. UNESCO, Paris, 1987).

Both of these publications are useful additions to the literature, but they are only a beginning, and we would like to encourage many more discussions, conference sessions, and publications relating to selection and acquisition-- or, indeed, any other aspect of our work. By the year 2019, which is the year we are talking about-- the 50th anniversary of IASA-- the professional Association should have produced a substantial bibliography and boast an up-to-date, lengthy publications list detailing all aspects of our work.

But concerning selection and acquisition, I would look to the increased exchange of information on:

1. Selection principles and practices indicating what criteria are used by a wide variety of sound archives and the reasoning behind these policies.

2. The debate on selection or deselection, and when should this be put into practice. What justification can we make for throwing things away, and I can think of many, or conversely, for keeping things.

3. Acquisitions policies-- also an area where publication and exchange of information is essential. Principles and practices should be widely disseminated to encourage debate.

The *Directory of Member Archives*, for instance, should be published regularly with details of the scope of our collections, the content, the access principles, and so on. This is an essential tool for all member archives to locate unique information and also to decide what to keep in your own collection as opposed to what appears to be widely collected elsewhere.

Incidentally, may I mention that a *World Directory of Moving Image and Recorded Sound Archives* is under commission from UNESCO and they are expecting publication in late 1992 or early 1993.

Lists of holdings would be useful additions to the literature. These may be on the newer information technology providing on-line access or CD ROM access.

Such items would enable members to see what is being collected and where. It would also enable new collections to see where their own strengths and weaknesses are-- whether a gap needs filling or whether one can rely on other collections elsewhere. Incidentally, I am not suggesting that we should all have unique collections. That is a very dangerous policy in the face of flood, fire, or unnatural hazards of warfare and even political warfare, which may deny access to unique material. We also cannot trust that an institution with a unique collection is in the position to maintain the material in usable and accessible format for future generations. But a greater awareness of what exists and where it exists would enable archivists to make educated decisions about what is useful to collect and preserve in their own collections, based on the knowledge of what already exists and the circumstances of collection.

Perhaps the formulation of these publications would be suitable cases for research grants for IASA.

This session is looking towards 2019 when most of us will be suffering from death or decrepitude. Let us hope our collections are not in the same parlous state!

But it is our responsibility now to set up good practices for selection and acquisition to ensure a spread of responsibility internationally so that we can all contribute to the conservation of the cultural heritage.

I think every archivist accepts the principle of selection, or, at least, I hope they do. Otherwise they may not call themselves archivists, rather, collectors or squirrels, and the latter are apt to lose their collections.

Without selection, 2019 will see an enormous, amorphous mass of useless and possibly inaccessible information--, and I would sympathise with the people of 2019. I hope that IASA will be able to develop principles and encourage the exchange of information to prevent such problems.

PRESERVATION, TECHNICAL STORAGE AND HANDLING **(Gerald Gibson)**

I believe the strengths and plusses that IASA has, to date are within IASA, because of almost 25 years of cooperation and working together to share information and to build information.

In the technical field, in particular, I believe one of the negatives is the lack of a centralised distribution or access point for technical data and information. Those of us on the Technical Committee, heard George Boston describe how the centralisation within the BBC has in many cases, resulted in the dissipation of technical support and data. Within our own association, we have the Technical Committee and we have our colleagues we can call upon, but we need to have its findings disseminated. We need to have it published, and we need to be able to do it in a shared and distributed manner.

I believe there is a lack of a generally accepted, if not a formally adopted, policy of preservation and restoration. I believe that there is a lack of accepted procedures and techniques which produce results. Many of us do our own thing and, unfortunately too late, we may find that we have done the wrong thing.

I believe we need a better understanding of the scope of the problems- the quantities we are dealing with, the difficulties we are facing. I believe we have a lack of accepted information in standardisation of digital sampling rates, for example, once again going back to the techniques.

I believe that some of the solutions in the technical area will come with the creation of a cooperative publication or data gathering and distribution programme, not only within IASA but with our sister associations. One of the discussions, for example, with the Technical Committee this week was with Henning to find out and to learn of his experiences in creating the FIAF manual, and some of the plusses and minuses that he has experienced with it. I believe we need the creation of a standing source of a clearing house. If at all possible, this should be a funded source. If it is not possible for a funded source, I fear that it will not take place.

I believe something that is essential in all aspects is training sessions. These should be developed and carried out in conjunction with the Training Committee of the Association and with our sister Associations. I believe that we can build upon them, once again, using FIAF as an example, with their very useful and very successful summer schools. I believe also one of the things we can do in those training sessions is to have concentrated, specific, directed pre- and post-session seminars at each of our conferences.

In general, in the environmental storage and packaging area, I believe the plusses are, once again, the cumulated knowledge that we have acquired through time and experience. However, I believe that the minuses far outweigh that information. We have conflicting information on the optimum storage environment and the optimum storage container for a given medium. We lack reliable information on packaging and its effect in life expectancy of the media and of the information which it contains.

Some of the possible solutions for these problems are independent study and recommendation of packaging, of environment, of techniques of storage and of handling. These should not be based upon our preconceived ideas and thoughts, because "this is the way I've always done it." Also, these solutions should be removed, if possible, from the needs of our industry colleagues to sell more products, and to convince us that the package they are selling us will last forever.

I believe we need the creation of and access to a catalogue of information to help us determine the technical needs-- how best to apply the technical resources and technology we

have on a timely basis and also to avoid the inevitable duplication of effort resulting from the lack of communication and lack of centralisation of our data.

(Editor's Note: After the presentations, there was discussion. The following summarises the points arising, identifying each speaker.)

Gerald Gibson: Magdalena, concerning the question of professionalism, do you feel that certification should be one of the things we attempt to develop and to strive for, and if so, do you have any thoughts on how it could be done, and if not, why not?

Magdalena Csève: I feel that some sort of certification should be required for the archivist. We could create it within the work of the association. And we have just mentioned the possibility of organising either before or after the conferences special training courses that would create professional archivists. IASA could organise these courses and offer some formal certification or diploma to those persons who took part on those courses.

John Spence: In Sydney, at the University of New South Wales, we have the only Archives Diploma course in the Southern Hemisphere. However, in this course, there has been very little attention given to non-traditional archives. The students pay a visit to the ABC and other non-traditional databased archives, but I wonder whether there is a role for IASA and the IASA Board in communicating with those tertiary institutions that do have courses on archives to actually broaden their perspective beyond that paper-based tradition.

Helen Harrison: IASA has taken part in the curriculum development report of UNESCO and you may have seen the report. This was something which arose from the Round Table--the Audiovisual Round Table which is part of UNESCO, and people like ICA, FIAF, FIAT, IASA and IFLA took part in a small working party to try to develop a curriculum for the audiovisual archivist generally. The report develops a one year course, basically, or a two year course, which is quite a commitment for any archivist to have to make while they're working. We did investigate the shorter courses as well through a world survey of all the existing institutions that were offering archive courses as such and also audiovisual courses or non-print archive courses, if you like. Now there were not very many, and very very few who are active in producing non-book archive courses.

There were several expressions of interest. We suggested that perhaps we could latch on to these existing institutions rather than reinvent our own institution, which would have been very difficult. And they all said, "Yes, what a good idea, but how do we find the time to include your interests as well as ours within that?" But it was a start, and I'm hoping that they will actually regenerate that particular working party in the short term.

John Spence: Perhaps the Open University could do something about a course.

Helen Harrison: Perhaps we could and perhaps we should. We have mooted this. We have also mooted the possibility of preparing distance education packages but it's very difficult to get something quite as radical as that through the Open University. More difficult than you would expect.

George Brock-Nannestad: I would put the blame for not letting the IASA membership know very much in depth about this study entirely on IASA and on the organisation of IASA. And this also goes for several for the UNESCO funded projects about which much too little has been distributed although there is IASA participation in it, and I think it is a disgrace. It was said at the Oxford Conference (*Ed: in 1990*) that this report was now ready. This is just an example of the lack of communication inside IASA and I think that is wrong. One sign of professionalism is that you have your inside communication in order.

Henning Schou: Just to share my experience within FIAF. There are three activities I am aware of. Over the last twenty years we have conducted the FIAF summer school in East Berlin-- done first in 1973 I think. And in June-July this year we conducted a very comprehensive three week training course in the National Film Archive in London which had twenty-eight participants from all over the world and also four from our own organisation which was a great success. And we are going to continue that.

It is quite expensive. It actually ended up costing us in the area of £15,000 to conduct. We had a language problem as well. We hope to solve some of these problems by holding a course, perhaps, in a French speaking country.

In Britain you can obtain a Master of Arts degree in archiving. It's conducted at the East Anglia Film Archive in collaboration with the National Film Archive. The first year, I believe, is mainly in film history and the second year is archiving course in collaboration with the National Film Archive. The course is two years old.

Also, I've just been approached about a programme, I believe, from Berlin. We have been asked about taking on a student who is looking at the re-recording of movie sound tracks. These are the activities I am aware of in the film area.

Ray Edmondson: Just to follow up the same point as Magdalena's contribution. It's one thing to seek to have courses of various kinds, and there is the summer school idea-- the idea of seminars before and after IASA, and even the possibility of an AV component in library or archive courses. And all of those are important if we can encourage them, although they tend to make us appear that we are subservient to some other field, and so I think perhaps we need to go in a different direction.

I think it is open to IASA, FIAF and FIAT and to other associations to offer some certification or registration or call it what you will that recognises that an individual has the skills or the knowledge or the other attributes that merit that recognition, and that can be the professional standard in and how it is applied and how it can be given credibility. But the possibility of training-- at least, of formal training, does not exist for many members of IASA or FIAF or other associations. Most people learn on the job one way or another and yet can be just as skilled as to what they do as the people who have had some formal training course, so I think it is over to IASA to perhaps consider how some set of registration could be introduced. I suggest this in consultation with the other associations. It can run alongside any training courses that are offered in various countries, but when the definition of our profession is finally set, it must be the associations that define the courses. So that would mean IASA would, in some way, define what their standards are.

Kurt Deggeller: I would like to speak on a more general point. Last year the Swiss government asked the different archives in Switzerland to develop a concept of AV archiving medias in the country, and we worked very hard for a year together-- the National Libraries, the National Archives, Broadcasting Company, and also the National Sound Archive. And we made a very nice report- 50 or 60 pages-- and calculated that we need investments of about 40 million Swiss francs- corresponding to about 40 million Australian dollars and about 8 to 9 million a year thereafter. We wrote to the relevant Minister, and he, "Oh yes, this is very nice report for now. You have to convince the politicians and also the public of the necessity to spend this money."

And here I recognised that this was the most difficult part of the job we have to do. We are not at all prepared to do that. That means that here at IASA conferences we try to convince each other that what we do is necessary, but as we are paid for that, it is very easy to

convince us that we must be. But when we are to prove the necessity of what we are doing, and when we must define our public-- who are our users or our potential users-- then our work becomes much harder. And I fear that we come more and more into the situation where other people do not see that archiving is an obvious activity. We believe that an archive must exist in any case and nobody asks why it exists. But then we have to prove that we have users and that the money which is spent for our archives is spent well.

I think we have to redefine our situation in society to some extent and also to collaborate much more with our potential partners-- not only the broadcasters and the recording industry, but also the copyright societies for they are both active in the same field and we have to rationalise our work. We have to find efficient ways of collaboration with them if we want to survive and if we want there still to be AV archives in 2019.

Gerald Gibson: One of the points which the Board discussed at length at Maastricht was that many of us feel the lack of administrative skills and experience, such as how to prepare and to defend a budget. It might be useful if one of the seminars which were offered to our membership could be a several days seminar for administrators and supervisors, or for similar types of things that you are addressing.

John Spence: My comment is related to the operation of IASA. I have been talking to some of my colleagues here about how the committees seem to work in isolation from each other. I was wondering if the Board, like myself, and some of the people I've spoken to, see the value in joint working sessions of the committees for future conferences. Speaking from the Radio Archives point of view, the other committees touch very much on the work that involves us, and that goes for the National Archives Committee, also copyright and cataloguing. One or two joint working sessions in different committees would be very valuable.

Gerald Gibson: As you heard on several occasions, when talking about technical issues, cataloguing, or legality clearly play a part when talking about access, etc. We clearly feel that joint working sessions are needed.

You implied a question about the working procedure-- the sessions and the programme in general. The working committees propose topics for open sessions and in general, develop their own agenda, schedule, and work needs. The Board can encourage or ask them to consider particular topics or areas, but the particular structure of IASA states that the committees are developed within themselves-- they are developed with the agreement and support of the Board, but the officers are selected by the committee members-- not appointed. The officers serve at the will of the members of the committee. The Board urges each committee to have elections-- to choose officers, at least a chair and preferably a chair and secretary-- at least once every three years. But there is nothing in the current structure of IASA making it mandatory for the committees to function save that they report on an annual basis to the General Assembly.

John Spence: I was really talking about how two committees and delegates who would attend those working sessions could work together on specific issues that relate to both committees-- those who are interested in the work of those committees.

Gerald Gibson: It is the committee's responsibility to instigate it with another committee, in essence.

Grace Koch: There are open sessions of the committees that are open to observers- to people who want to contribute. I guess I would encourage all of you to attend whatever committee meetings that are open committee meetings that you can, because we need this

cross-fertilization. It's a good point that you brought up, John. I simply want to encourage people to come and to contribute to committees.

Gerald Gibson: The Technical Committee has referred a couple of projects that it has been considering to the National Archives Committee and the NAC has set itself a task that directly interfaces with the Technical Committee. Possibly the Board should be more assertive, but it is primarily the initiative of the committees to do what you are describing.

Sven Allerstrand: I just agree, and I can see the point from the National Archives Committee and the Radio Sound Archives Committee because we-- the two committees-- deal with all aspects of sound archives-- copyright, cataloguing, and technical aspects. So I would, along with the other two speakers-- encourage cooperation between what we could call the professional committees and the function based committees.

Mary Miliano: It's been my observation over the years that institutions often say, "Wouldn't it be good if we shared our data and were compatible with each other and had the same standards?" and that, in fact, archives invariably do their own thing until they have a need to share their data. For instance if two sound archives find that they hold the same sort of material, perhaps through legal deposit in one archive and broadcast material in another, and they are in the same country, they suddenly say, "Yes, let's try to capitalise on having a compatible system." I feel that it's not until archives have a commitment or a need to share their data that we would actually succeed in having standard cataloguing rules across the board and sharing of data. I personally feel sad that archives don't have this as a high priority, but I realise they have a lot of other priorities that they need to attend to as well.

Gerald Gibson: I believe we have the need clearly. I believe one of the things that has been lacking is the means to share the data and clearly, with automation, the priority for cataloguing. Hence, automation has been concentrated on book and book-like materials, primarily, books themselves. Of the nearly one hundred million items in the Library of Congress, thirty-five to forty million non-book items are not catalogued. However, there is a major push for cataloguing staff to work on non-book materials. If your institution receives the MARC tapes, you will see that the quantity of cataloguing of AV materials has risen substantially. The major problem has been the lack of the technical capability to interchange and to access data-- the problem of an ADP standard.

Ann Baylis: I wanted to mention that after a number of years of collaboration, the FIAF Cataloguing Commission has, this year, published the rules for cataloguing archival films. They saw the need for a standard across-the-board for all archives, and this standard is being used in South America. I am aware that there is a Spanish edition out already, as well as one in German and, possibly, French.

Gerald Gibson: Please let the Board know if you found this session to be useful. Please send any written comments and we will do our utmost to see that they are pulled together and distributed in a timely fashion. These ideas will help to form the Board direction in the future.

(Editor's Note: After the Canberra conference, several letters and articles have come to me in response to the Board Open Session, The following section consists of these responses.)

RESPONSES TO THE BOARD OPEN SESSION

Martin Elste

When I joined IASA back in 1976-77, I was seeking a group that assembled professionals in the field of classical music recordings. As a trained musicologist, I did not find such a group within the musicological circles. I did not mind that IASA catered for all other aspects besides the musicological one, and I even became interested in those other aspects. The combined conferences with IAML took special care for the musicological approach to sound recordings; I only recall the appropriate sessions in Mainz and Salzburg.

In the meantime, IASA has moved away from this area. Now its concentration focusses on the sound carriers as such and not so much on the content stored on those carriers. Certainly this has to do with the speed at which modern media formats change. Sound archivists have to be aware of these changes, and, furthermore, they have to be critical-- not an easy task.

But I, personally, would be more than happy to see some of the musicological aspects back within the IASA frame, and I think the (occasional) cooperation with IAML is not a bad strategy for that. It enriches the intellectual discussion within IASA and makes the association interesting for others professionals, too.

Were IASA to become an association restricted to professional sound archivists (whatever that might mean), I promise a decline in professionalism. There would be no *Phonographic Bulletin*, there would only be conferences made up of public relations presentations by the member archives. I happen to belong to such an "elite" organisation because I am not only a sound archivist in its strictest sense. It is good to see my colleagues of that association at annual meetings, but the outcome is restricted to a verbal exchange. Do we really want this?

Look at the *Phonographic Bulletin*.. A large section of each issue has, for years, been contributed to by individual members. Professionals usually are too busy with administrative and practical matters in order to write essays for publication outside their own institutions. Some of the most thorough book reviews in the *Phonographic Bulletin* have come from individuals, in fact, not even necessarily from members. We all profit from them. And, on this occasion, had IASA restricted itself to institutional members only, I surely would not have been able to develop the Reviews and Recent Publications section to its present standard.

Individuals are the real supporters of IASA-- they stick to it and they believe in it. In the course of my fifteen years of membership, how many professionals have I seen come and go! George Brock-Nannestad, one of the association's most vivid professional non-professional (i.e. individual) members, has suggested to change the association's name to "International Association for Sound Archivism." I think this suggestion is a very thoughtful as well as useful one. By working in a museum that is devoted to the many facets of music, and thus being confronted with physical objects of many diverse kinds-- musical instruments, accessories, photographic objects (slides, negatives, ektachromes, prints), paintings and drawings, books, manuscripts, files, piano rolls, pinned barrels, films, and last but not least almost all formats of sound recordings, I know of the various needs archivists have in respect to all this material they have to care for.

On the other hand, I am quite aware that a global approach takes away a lot of thinking about the contents of these materials. I have experienced this phenomenon with the advent of

electronic data processing. The time of writing or typing index cards gave, arguably, more time for thinking about the contents of what one was writing! And I fear that if IASA opens itself more and more towards all kinds of archival objects, it quickly comes to a point when that what is said about the scope of the association's prime interest can also be applied to collecting and storing potatoes.

A solution to opening the association to other media and, at the same time, to intensify the aspects of contents might be the cooperation with other professional groups such as the International Council of Museums (ICOM), and in particular with the CIMCIM and AVICOM committees of this huge association, as well as the cooperation with musicological societies, such as the American Musicological Society, International Musicological Society, and Gesellschaft für Musikforschung. Of course, we should not forget IASA's original base, IAML. But cooperation is only feasible if IASA can contribute to aspects that are of common interest. And here is the challenge for our journal, the *Phonographic Bulletin*. It should cater for a wider range of subjects about sound, and in order to achieve this, IASA will always need writers from outside its archival membership. I very much favour the introduction of special working groups, ie. an AV working group. But each of these groups should have a specific project to tackle. This will keep IASA alive and healthy.

REFORM OF IASA, SOME REFLECTIONS

Rainer Hubert

Let me start with something minor-- the names of our committees.

1. Our committee structure mixes different kinds of things.

I think it would be far clearer to differentiate between bodies dealing with different types of institutions and bodies dealing with different kinds of subjects. This would mean:

1. By institutions
 - * radio sound archives committee
 - * national sound archives committee
 - * research archives committee
 - * photographic archives committee

2. By subjects
 - * commission for technical matters
 - * commission for cataloguing
 - * commission for training
 - * (commission for fundamentals)

(the labels "committee" and "commission", of course, could be used the other way around or other names could be used). Such differences in titles would help to clarify things.

Now to a more important aspect:

2. The National and Affiliated Organisation Committee (NAOC) should not be a committee at all! It is a body like the General Assembly. NAOC is the second chamber of IASA, its Senate. The IASA Board as well as the national/regional branches/organisations should make more use of it. In my view we should try especially to make the NAOC representative a kind of ambassador of IASA in the branch/organisation as well as the ambassador of the branch/organisation with IASA (see also 2.4). Meanwhile the

main working capacity in our field lies on the national level rather than with IASA; therefore, the linkage between both levels is important.

To strengthen this linkage I would suggest:

2.1 The NAOC chair should be a Board member in their own right.

Presently the chair is also a Board member but this is not stipulated by the Constitution. I think that we could reduce the number of elected Board members by one vice-presidency. The elected chairperson of NAOC should automatically become the third vice-president of IASA. Such a move would stress the importance of the national organisations, and such changes should be reflected in the Constitution.

2.2 The difference between the national branches and the affiliated organisations should be discussed anew.

Perhaps we do not have to differentiate between them. This problem is a difficult one and financial questions have to be discussed, but, because the present solution does not function very well, something has to be done. So why not come up with a "big solution?"

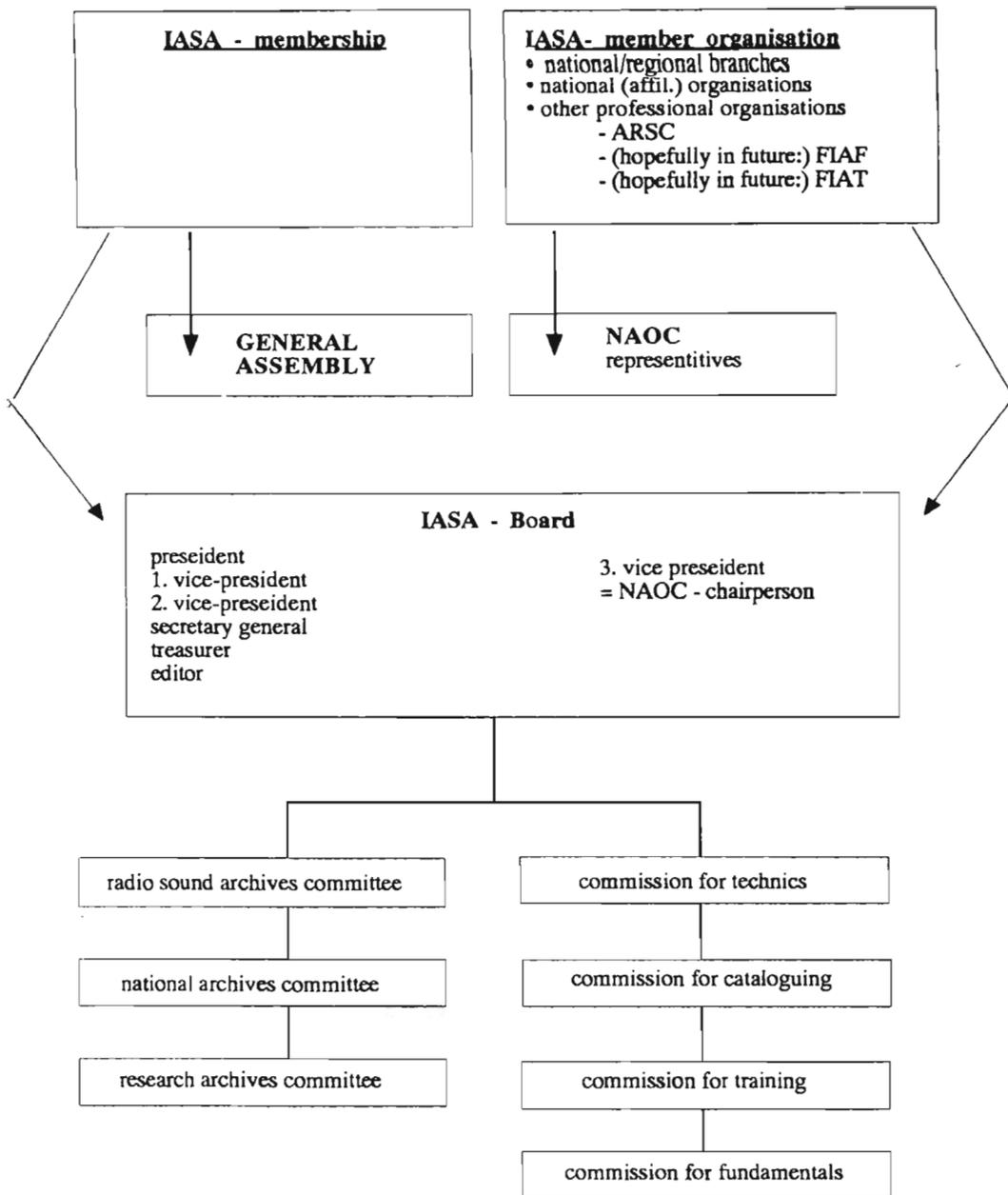
2.3 A re-shaping of NAOC could also further coordination on the AV-media field as such.

In the future, NAOC, not only national and regional organisations should be represented, but all professional AV-organisations, that is, FIAF and FIAT also! If an organisation the size of ARSC is an affiliated organisation of IASA (and we of them) why not the same with FIAT and FIAF? It would be worth trying. All AV-media organisations would be linked by this and the future NAOC would be the platform of all relevant bodies of our profession. It would be a first step towards achieving a unification without ruining the individuality of each of its parts. We would grow into one another. Just to cooperate is not enough, I think. A network has to be made.

2.4 There needs to be internal reform of the NAOC

One problem is that the national representative position is a job without prestige and clarity; up to now this was a job without any real work, just one little report per year. In the future, the representatives should be challenged much more. In some of the branches/organisations, the representative to the NAOC is chosen on the spot. I think this is a real mistake because there should be continuity. Could we ask all of the branches to nominate representatives and then to publish them all in the *Information Bulletin*? If the Board or if some member wants to ask or suggest something to a branch/organisation, he/she can do so by contacting the representative. In some cases this representative may be identical with the chairperson or the secretary of the branch/organisation; in others, it may be another person. That is not so important. In my view, the main thing is that we all know who the link person is between IASA and a particular branch/organisation. The NAOC meeting itself should be dedicated to discussions of current affairs rather than a recital of lengthy reports on the activities of the member organisations. such reports should be given in printed form.

I propose the following schema for the interaction of the various contacts of IASA:



COMMENTS ON THE FUTURE OF IASA SESSION

George Brock-Nannestad

First of all, I would like to emphasise how relieved I am that the membership is not forced to make a decision before it has been made aware of the need for a serious debate. In particular I am happy that during the General Assembly in Canberra it became superfluous to vote on the proposed changes to the constitution as a packet-- this would have artificially created a confrontation where logic would have won, but where we would have ended up with a split association.

The non-controversial parts of the constitutional amendments were decided, but the major proposed changes still stand, and so we are still left with problems of terminology and with trying to understand the need for the change.

We live in a world where technological development may diminish the importance of actors in a particular field. This was the case for silent movie stars with the advent of sound movies, and it is the case of persons concerned with sound-- audio-- in the face of video and other visual media. One need only compare the investments in video productions to those of sound productions. The relative importance of sound is diminishing and so is-- let us face it-- the relative importance of sound archivists.

But what is IASA? On one level it is a number of individuals who have a common interest because they work in similar environments. On the other level it is an international body, a non-governmental organisation which expresses opinions endorsed by a majority of its individual members. On a third level it is a platform for the officers of IASA: if the outside world perceives the organisation as being important, then the officers themselves are important.

What are the fundamental reasons for wanting to encompass "and audio-visual" as well as "sound" for which IASA was created? *One model* builds on the development of a number of archives: these archives experience a greater proportion of AV material coming in, and it is claimed that they do not know how to handle it properly. They are already members of IASA, and so they would be happy if IASA could help them.

Another model is that of making IASA a more important player on the international scene, because we would cater for a greater number of archives. Organisations presumably have to compete for the attention of the few archives world-wide. Another way to express this is that if IASA does not move, other organisations would step in or new organisations would crop up. All in all it is felt that the importance of IASA would diminish if IASA did not take the situation in hand.

Do we want to solve the problems of archives or do we want to solve the problem of the diminishing importance of IASA? This is the real test of the need to expand the scope.

In the absolute sense, taking in a growing field like AV will not put the audio side in a better position-- the individuals are still the same and the problems are still the same. Actually, the amount of attention given to sound would diminish in the relative sense. We have the choice of competing for attention and funding while sharing membership with our competitors *within* an expanded IASA, a specialised organisation catering for the problems of sound as such, i.e. not necessarily connected to AV.

The problems facing the sound archiving community are real, and the source value of sound recordings is under constant attack: during recent negotiations as to new standards for HDTV (High Definition Television) it was claimed to be unimportant if films in a once-and-for-all conversion to the new format were screened at 25 frames/sec rather than the 24 frames they were recorded in. Only one delegation had done their homework and opposed, due to the transposition of the sound track which would be falsifying the rendition of e.g. voice and music. Another example serves to show that IASA is not yet, even by its present members, regarded as the natural organisation of reference. At least two major archives have been forced to accept digitisation to certain standards in their preservation work. However, none of them thought of asking or referring to the opinion of IASA or its Technical Committee when arguing against short-sighted digitisation projects.

Obviously we need to have international cooperation in fora such as the Technical Coordinating Committee which organises the Joint Technical Symposia, and we must pool forces where it is useful in order to achieve a *common goal*. However, although it is imperative to learn from the experiences of the moving-image field in preservation of magnetic or even optical soundtracks, I would not like to have to yield to a standard imposed by the conditions of the film or video medium, in the case where the audio is alone. And in case digitisation became an issue for some international standards body, I would like to discuss and argue audio's case in the complete international forum rather than having to make do with the *internal* forum of an expanded IASA. ISO or CCITT would expect an organisation like the expanded IASA to have its house in order before going to international meetings, and this means there cannot be split opinions. On the other hand, the result of continued disagreement within an expanded IASA would be either that IASA were silent on the issue (to the detriment of the archival community) or an internal split.

We have to remember how IASA was created: a number of music libraries found that they had holdings that were not in printed form, they were sound recordings. And from being a committee on the special problems of sound recordings in libraries, along with greater insight into the matter came the realisation that it was possible to make a delimitation: there were greater similarities between the departments of different libraries holding sound recordings than there were between such departments and other parts of their own library. The time was ripe to create a separate association.

If the need to assist member archives with their AV problems is real, then it is logical to make a debut in the field by immediately creating a dedicated committee, and AV committee. Members would be representatives of those archives which are presently IASA members who have the problems. Once this committee were formed it would be possible to tell the archiving community of this pooling of knowledge and to encourage joining IASA.

To sum up, I feel that it is definitely too early to give up the specialisation which seems necessary to achieve in-depth treatment of those problems that are peculiar to sound taken alone. These problems have not yet been solved, and their solution is not *dependent* upon membership by archives who mainly cater for sound-with-moving-images. And anyway, where is the logic in attempting to have just one organisation catering for all the problems of AV archiving-- archives would still have to be members or at least have staff who are members of AES, ICA or other dedicated organisations. And even the empire builders would not want to take on these organisations as well?

On the other hand, even the IASA we know does need to have a more professional profile which also means advertising the strength of IASA as a body. That professionalism would be noted more widely internationally, if relevant activities undertaken by IASA or due to IASA contacts were promoted as IASA activities and performed in close contact with the relevant committees.

IASA FUTURE AND EXTERNAL RELATIONS

Helen P. Harrison, Past President, IASA

During the Canberra General Assembly the proposals for Constitutional amendments--circulated to all members in July 1992 were discussed at length. Most of the 'cosmetic' amendments were accepted and passed and the Constitution (1992) reflects this. However, some of the major amendments were passed back for further consideration-- these were the ones concerned with an expansion of IASA's interests to include audiovisual archives in addition to IASA's primary concern with sound archives.

The reasons for passing them back were surprising to anyone who has worked in IASA over the years-- namely that there had not been enough discussion and there was a general lack of information about the reasons for the move.

Even a brief look at the history of the discussions belies this view. Let us attempt to clarify the issue by looking at the history and repeating some of the arguments which have been used for and against.

There were several issues in the draft amendments, but discussion in Canberra centered around an expansion of IASA's interests in audiovisual archives which contain sound documents. Audiovisual archives may be said to have entered the group consciousness of IASA when we first joined the Round Table on Audiovisual Records, an organisation which operates under the auspices of UNESCO. The Round Table was formed in 1979 and has had a membership consisting of IASA, FIAT, FIAF, and the Audiovisual Committees of IFLA and ICA. It is through our membership of the Round Table that interest in audiovisual matters is nourished. We discuss mutual problems with our colleagues in the other Associations as well as less formally during the year. In the mid-1980's, the Round Table began to realise that certain archives were not able to find representation in any of the constituent Associations. These are the general audiovisual archives which contain film, video, sound, and sometimes photographic material. For several reasons a growing number of archives containing audiovisual materials find themselves without an international Association to represent their interests.

As a result of these indications and because many IASA archives are also audiovisual archives, the Board of IASA began to consider what could be done to help them and others. One option was an expansion of interests to include audiovisual materials in addition to our specialist interest in sound materials. Initial non-binding proposals, more floating of ideas, were introduced to the membership and discussed in detail with our Round Table colleagues in the late 1980's. The Board considered the issue as early as 1986 when our colleagues in Austria, France and the Netherlands began to widen their scope and extend their interests into audiovisual archives.

In November 1986 at the Stuttgart Executive Board meeting, the Secretary General was asked to produce a report for the membership and IASA opened the debate in the Amsterdam conference in 1987 both in the content of the conference where several papers concerned AV archives, and in the General Assembly. (*Phonographic Bulletin* No. 49, 1987).

Vienna Conference 1988

In 1988 the debate continued at the Vienna conference in September at a session entitled the *Future of IASA*. This had presentations from four speakers and because of the interest it generated a second session was included in the Vienna conference. It was decided not to print the discussion in the *Phonographic Bulletin*; instead they were printed separately as the *Future of IASA* and sent to all members in May 1989 asking for reactions and comments as well as to generate further discussion at the Oxford conference in August 1989. Two papers from Vienna on the discussion by Hans Bosma and Rainer Hubert were printed in *Phonographic Bulletin* No. 53, March 1989.

The primary purpose in forming the Association in 1969 was to establish a body of like minded people with similar aims to function as an intermediary for international cooperation between archives which preserve recorded sound documents. The Association is actively involved in the preservation, organisation and use of sound recordings, techniques of recording and methods of reproducing sound in all fields in which the audio medium is used and in all subjects relating to the professional work of sound archives and archivists, but the changing emphasis of our interests towards audiovisual archives has already been noted several times during previous conferences.

Hans Bosma thought there were clear signals that many members collect not only sound recordings but also other audiovisual materials and cannot find an international platform for discussion or for information exchange. At the Stockholm conference in 1986, France, Austria, and the Netherlands announced that they had widened their scope to audiovisual materials and felt IASA could not meet their needs in this field. Also other organisations such as FIAF or FIAT are, for several reasons, not appropriate organisations for many audiovisual archives to join. Rainer Hubert looked at our relations with other organisations and proposed some interesting ideas for future cooperation and even the formation of a parent organisation. This point was taken up in the Round Table and in the Oxford conference.

The ensuing discussion was extensive and only a summary can be given here. The membership at the time recognised that we are sound archivists with increasing ancillary interests, and that changes are necessary to keep IASA as a dynamic organisation: changes in our scope and changes in our structure and organisation to accommodate this extension of our interest. But which should come first? Logically we have to decide what are the aims and objectives of the association and then devise a Constitution which will help to fulfil those objectives.

Hans Bosma posed the main question:

Is IASA willing and able to change its purposes to include all audiovisual materials and is IASA willing and able to act as an association for audiovisual archivists? The answer will be found in clear purposes.

Three suggestions for change emerged:

- a) IASA could become an international association of sound and other audiovisual archives
- b) An umbrella organisation for the existing audiovisual archive organisations could be established, although it exists informally in the Round Table. This may or may not be practical but it is worth pursuing as part of a cooperative scheme.
- c) The other suggestion was for the merging of all audiovisual organisations into one massive organisation. As soon as we looked at this we saw the impracticality and dangers and disregarded it.

Oxford conference 1989

During the Oxford conference 1989 a further session was devoted to the *Future of IASA*. One member had taken the trouble to send a detailed written comment after the first paper was circulated and his comments formed a substantial part of the discussions at the Oxford session. We also had representatives from FIAF and FIAT who added to the discussion on external relations. The resulting discussion was printed in a second separate leaflet *Future of IASA Part 2* and was sent to all members in October 1989.

These discussion papers covered a wide range of topics concerning IASA structure, scope and external relations- topics which have exercised the Association ever since, as it appears. At each stage IASA members were asked and encouraged to take part in the debate, but the response was unfortunately very sparse-- perhaps a result of busy working lives, or worse, apathy.

At the Oxford conference General Assembly, a Board resolution was presented to the membership. Three of the points are particularly relevant to the present discussion:

1. That the Association continues to represent the interests of sound archives and sound archivists but extends this interest to include other audiovisual media
2. That in future, the Association holds annual conferences on its own, or where appropriate, in conjunction with organisations with similar interests
3. That the Association encourages future cooperation with other audiovisual associations with similar interests

These resolutions were dated 1 September 1989.

One member argued that it was more sensible for institutions and individuals who are involved in different media to be members of several international organisations, and counter arguments came from the National Film and Sound Archive in Canberra, Australia, and the National Archives Committee, the majority of who maintain a function-based rather than a media-based institution. The National Archives Committee argue that the majority of their member institutions are already *de facto* audiovisual archive collections. There is a trend towards the development of multi-media archives whether for practical, economic or philosophical reasons.

The various branches of audiovisual archiving have so much in common that it is in everyone's interest to recognise realities and the capitalise on inherent strengths. At stake in the long run is the recognition and perhaps survival of our profession and the development of a coherent and well-articulated body of theory on which recognition must ultimately rest.

Following the Oxford conference discussions, work began on drafting a new Constitution. These and other developments were summarised in the President's report to the General Assembly at Ottawa in 1990.

Sopron conference 1991

At the Sopron conference in 1991 it was noted in the Secretary General's report that '...since the needs and interest of the membership of the Association have clearly expanded into audiovisual documents and since the programmes of the Association have reflected these evolving interests, the Constitution and By-Laws of IASA should be modified to reflect that interest.' During the week of the conference, draft amendments were drawn up and

presented to the membership at the General Assembly on 28 May 1991 for discussion and consideration during the following months. *One* member sent in a detailed commentary.

Revised draft amendments to the Constitution and By-Laws were sent to the membership in July 1992 and, *surprise surprise*, in September in Canberra we were informed that not enough discussion and information had been given for members to make up their minds! How do you define *enough*!

The Round Table and related organisations

Information was asked for during the Canberra conference on the discussions which have taken place with related organisations, whether we had discussed the issue of IASA extending its interests and what the other Associations' reactions were to this move

As previously mentioned, most of our discussions on this topic arise at the annual Round Table meetings. The Round Table on Audiovisual Records is a group of UNESCO Non-Governmental organisations (NGOs) with similar interests in various aspects of audiovisual archive matters. The Round Table consists of member representatives from FIAF (International Federation of Film Archives), FIAT (International Federation of Television Archives), IASA, IFLA (International Federation of Library Associations and the AV Committee), ICA (International Council on Archives and the AV Committee) and UNESCO.

All of these NGOs have an interest in audiovisual archives and collections, but only a few are open to include general audiovisual archivists in their current membership structure.

The Round Table members realised early in the 1980's that there was not an Association devoted to audiovisual archives and the growing number of audiovisual archives found themselves without an international Association to represent their interests. Those archives which can will continue to affiliate or remain in membership of the archive Association which best serves their interests. Some, especially the larger national archives which may have separate archives take out membership in several organisations, while others, especially the smaller, integrated archives, are excluded from joining a relevant Association for one reason or another. The Association may have stringent membership conditions, it may be costly, it may not cover all interests adequately. FIAF has a relatively small membership, although it is representative of the majority of main film archives. The membership structure is strict-- the primary function is preservation. Dues are high, but financial support of member archives is also extensive, especially to conferences. Audiovisual archives simply do not qualify for membership. FIAT also has a relatively small membership and is largely restricted to television organisations. There are few video archives outside these organisations and many audiovisual archives which are not always served by FIAT's interests. Dues again are quite high and beyond the reach of the smaller audiovisual archive. IASA has less stringent membership entrance and our dues are ludicrously modest for institutions, but that is another argument, and until we start offering more value for money we have little argument for increasing dues to more realistic levels.

The other Round Table partners, IFLA and ICA, represent committees of the Associations involved although the parent Associations have always taken an active interest in Round Table affairs and have put their considerable weight and expertise behind its activities. IFLA has a very large membership of libraries and archives, principally national libraries with national archives attached. They have appointed an Audiovisual Round Table to take an active interest in audiovisual matters in all sorts of libraries including public, special, national and subject archives. They too recently appointed a Committee for Audiovisual Archives.

Both of these last two organisations lack something-- a technical committee for audiovisual materials. They depend upon the technical activities and advice of the other three organisations. This is where the Technical Coordinating Committee (TCC) comes into the equation. The Round Table set up the TCC to advise member associations on technical matters pertinent to audiovisual archives. As you know the TCC presents Joint Technical Symposia at regular intervals for the information of all Association members, technical and non-technical alike. It also has an active publications programme.

IASA was one of the founding members of the Round Table and has attended all of its meetings. Discussion centres around activities of each of the Associations, conference programmes-- each organisation is invited to the others' conferences, joint projects, publications, and activities. There has been a lot of discussion about the role of the Round Table Associations *vis-a-vis* the provision of membership services for audiovisual archives. Some of the organisations may include audiovisual archives among their membership, others exclude them at present but are considering altering their membership structure to include the smaller archives as 'corresponding' or 'associate' members.

The Round Table itself consists of representatives from existing relevant audiovisual archive Associations-- it has no wider membership. Matters of policy are discussed at the Round Table and are taken back to the members' Associations by the representatives. Widening the membership structures of the various organisations to include provision for audiovisual archives also appears consistently on the agenda of the meetings.

IASA has taken part in these discussions about provision for audiovisual archives during the life of the Round Table. Plans for extension of interests have always been discussed openly, and far from objections being raised, the several Associations have encouraged the welcoming attitude of those Associations which were able to include the audiovisual archives in their remit. Although the topic is one of constant interest there have been one or two notable discussions at the Round Table.

In 1987 (see *Phonographic Bulletin* No. 48 May 1987), ICA announced the formation of an audiovisual committee whose main purpose was liaison between the Round Table and the members of ICA with a particular interest in audiovisual matters. The ICA committee on AV saw itself as a liaison between the specific audiovisual archive groups and in no way a rival to any existing groups. This coordinating role was acknowledged as a valuable addition to the audiovisual archive lobby of the Round Table.

At the 9th Round Table meeting in Brussels, March 1989, IASA introduced the topic of extension, arguing that 'the small developing audiovisual archive dealing in a range of audiovisual materials may not qualify for membership of one or other of the specialist organisations, and yet need an international voice to take advantage of developing principles and techniques. The Round Table agreed that they should consider this problem and how the NGOs might serve the interests of these mixed material developing archives.' FIAF also indicated that they were discussing membership structure to try and accommodate the number of regional and specialised archives which do not necessarily qualify for FIAF membership, yet who else is to serve their needs? Some institutions include film museums: can FIAF respond to the changes, and how? Does FIAF open or close the shop?

The next main discussion between the organisations on the topic of extension of interests occurred during the Oxford conference in 1989. During the *Future of IASA* session, members of FIAF and FIAT were invited to speak to the topic. Their contributions appear in the *Future of IASA Part 2* paper.

David Francis of FIAF said that "FIAF were having the same concerns after fifty years of existence, and that FIAF was looking at the problems from the point of view of the membership. FIAF has only institutional membership and many archives are not eligible for membership of FIAF because of the criteria for membership. FIAF has taken as its main criterion for membership the ability of an archive to preserve the national cultural heritage. The term, *preservation* is used quite literally. It is very expensive and highly technical and has proved one of the most difficult items to get international funding for, but without preservation none of the other activities can exist in film archives."

David went on to consider the areas of cooperation between the archive Associations. IASA, FIAF and FIAT obviously have a common purpose on the technical front and there are other areas of mutual interest. While not advocating any sort of merger of the Associations, it would be worth exploring a biennial meeting on a topic of mutual interest, albeit retaining separate identities and business sessions as well. The Associations could hold separate conferences in the alternate years and still retain their own identity.

Anne Hanford, the president of FIAT, spoke of the fact that television archives are also concerned with other media, i.e. sound. Because of the organisational structures, members have a common responsibility for radio, music, stills and all kinds of media. FIAT have therefore identified much in common with other audiovisual Associations. There is an interest in closer cooperation in several other areas as we have already done in the technical area. The criteria for membership in FIAT are that full members represent an organisation which is responsible for the custody of a television archive. That, by definition, means most are television organisations.

The suggestion had been that the three main audiovisual archive Associations should consider forming one large organisation to serve all interests, including audiovisual. This one does not meet with approval in the Round Table.

At the *Future 2* meeting, FIAF and FIAT both agreed that a total merger of the Associations is impractical and undesirable. The parent organisations have such different constitutions, rules of membership and structures that such a merger is impossible in the short term. Each Association should maintain its own identity but it is agreed that cooperation must be increased and one of the Associations has to take on some responsibility for the growing number of audiovisual archives and collections which need an international voice. Cooperation between IASA, FIAF and FIAT should be intensified, and perhaps a coordinating council formed. Views and information are constantly exchanged, joint international working parties formed for the benefit of all members. The Round Table could be used to set up additional coordinating committees in subject areas of mutual interest.

The final question in this particular discussion remains: should IASA change and broaden its terms of membership and increase its hospitality to the benefit of the audiovisual archive community at large?

NOTE: Documents cited in this article are available from IASA. Anyone who needs extra copies of the Future of IASA Parts 1 and 2 could write to me (Helen Harrison) at the address on the inside of the front cover of this issue.

THE TECHNOLOGY OF SOUND ARCHIVING

Ted Sheldon

Several people, all but one having enjoyed a hearty, heavy meal full of conviviality, embark on a four-day sailing trip along the coast of New England on a thirty-five foot sloop. Tom West, who did not eat much, is a skinny fellow with searching and adventuresome eyes. The others see him as a weakling, not robust enough to handle the voyage ahead.

Initially, the waters are peaceful, the day beautiful, the winds calm. But as the sailboat rounds the headland of the bay, the winds change direction suddenly, rise dramatically to near gale force, and a storm front begins moving through. While the others seriously regret their hearty meals, most contributing them back to nature, West is relishing the adventure, the changes in wind, current, and weather, the challenge of the experience. Soon he is the only one of the group left standing, and pilots the sailboat through the toughest of the weather they encounter. West never sleeps, and all aboard comment in surprise about his zest and energy. He meets each new challenge with passion, verve, and zeal. He thrives in the sea of change and adversity, of threat and opportunity. His mates comment for years to come on how the skinny little guy remained undaunted through the difficult trip.

This story is about change, and about attitudes toward change. It serves as a metaphor for life as we increasingly know it to be in sound/visual archives. Tom West was a design engineer for a major computer hardware firm in the United States at the time these events supposedly took place. As such, he represents the kind of attitude necessary to confront the rapidly advancing world of computers and telecommunications. And his shipmates probably represent the wider public. Certainly, many more people have embraced computing in their work and personal lives now than had in 1981 when these events were told. But now the pace of innovation and change is even faster than it was then, and it is accelerating. The presence and influence of higher capacity computers in ever smaller boxes, more and more of them tied together with telecommunications systems which are faster and more flexible, seems to grow exponentially. So, while some point with pride to the fact that two million computers will be linked together world-wide by the Internet before the end of 1992, others struggle to understand these evolving capabilities and apply them intelligently to the handling of information.

This is especially true among sound archives. Libraries are much further along this road than most sound archives. In fact, many libraries are now installing their second generation of computer systems. And in most libraries in Western Europe, Australia, and the United States a large majority of the holdings are represented in computer catalogs.

But sound archives face a different set of problems, and have fewer resources available with which to meet the challenges they face. For example, in the United States the vast majority of sound recordings held in archives are not represented in any formal cataloging system, either in the form of bibliographic records or holdings statements. A survey of sound archives performed in 1986-87 by the Associated Audio Archives Committee (AAA) of the Association for Recorded Sound Collections (ARSC) found that less than 10 percent of holdings in institutional sound archives appeared in a structured library catalog, and fewer still appeared in a computer-based catalog. For the most part, knowledge about the content of sound archive collections resides in the heads of the curator and the archives staff. The low level of computer-based catalog access contrasts starkly with the high collection growth rates reported in the same survey. In the face of this "Malthusian situation" inside sound

archive collections, institutions have at their disposal only very limited quantities of financial, human, space, and other resources.

In this stressful context, the possibilities and opportunities afforded by advancing computing and telecommunications technologies abound. Moreover, they may well offer the means to more effectively operate sound archives, and to identify and make accessible sound recordings. In general terms, what contribution can computing and telecommunications make to sound archiving?

Inter-institutional network

Currently, information networks are growing both in number and size. Some of the earliest information networks from the late 1960s and 1970s could be used only by highly trained persons using dedicated telephone lines for very tightly circumscribed purposes. The early networks established by OCLC serve as examples. Nonetheless, they pointed the way to the future. Currently in the United States, the Internet, a "network of networks" which is international in scope, links over 6,000 networks and delivers 16 billion packets of information each month. It is characterized by multi-purpose use, a wide variety of communications devices and speeds, and a much enhanced flexibility. E-mail between the author and editor regarding this article was sent through the Internet from Canberra, Australia to Kansas City, Missouri, U.S.A. in a matter of two or three minutes.

Networks such as the Internet offer sound/visual archives the possibility to transmit digitized sound, digitized still and moving images, and computer-based bibliographic data. This opportunity extends to the distribution of sound and visuals among sound archives, as well as the delivery of sound directly to users from remote archives. But before that vision becomes a reality, networks need further improvements. Specifically, they must operate faster, especially if they are to carry still and moving images. Their reach must be extended among sound/visual archives, and between the sound/visual archives and their users. And the information contained in sound/visual archives must be digitized, perhaps the most daunting part of realizing this vision.

Currently, production networks cannot do these things, and precious little material has been digitized. Moreover, the reliability provided by networks is still not adequate. Recently, George Rickerson, Director of the Library Systems Office at the University of Missouri, U.S.A. stated that "...the networked information world is a fairly chaotic place now, and it is going to stay that way for some time." But the opportunities offered by more capable, stable networks will be upon us before we know it.

Operating systems

For the sake of this discussion, consider the International Business Machines (IBM) CICS operating system and the UNIX system developed by American Telephone and Telegraph Co. (AT&T). Both provide the instructions which serve as the framework for handling directions people give computers; they tell the computer how to structure work. But they do it in different ways. CICS is the older of the two, and is a more closed operating system. When it was written, it was in the interest of IBM to use a proprietary operating system like CICS to continue its domination of mainframe computing. As a result, CICS severely limits the ability of people using it to communicate with computers running other operating systems. With connectivity now a major goal, CICS has become a barrier to effective use of computing.

UNIX was developed later, and it sought to provide greater flexibility of application. It was aimed at micro- and mini-computing environments, and used a much more open architecture

to link these kinds of machines together. For our purposes, the result was greater ability to interact with other operating systems. Today, it is relatively easy for UNIX users to locate information on computers using CICS, and it is very difficult for CICS users to locate information on computers running UNIX.

UNIX represents a step toward greater ability to connect computers together. But UNIX is only one of many operating systems. More steps are needed to achieve an open architecture environment, and with them greater connectivity will come.

Protocols

GOPHER, FTP, TCP/IP, E-Mail, and Z39.50. All of these names refer to computer communications protocols. The Transmission Control Protocol/Internet Protocol (TCP/IP), and its component File Transfer Protocol (FTP) and E-Mail, are about 15 years old, and are very basic. GOPHER is 18 months old and is used by approximately 100 universities in the United States. Because GOPHER builds on the limited capabilities of TCP/IP, users can communicate in significantly more powerful ways than can TCP/IP users. Z39.50 became available in Version 2 in early 1992 and seeks to make remote computers act and look like a users' home system.

When a person presses a key on a keyboard linked with one computer system to communicate with another computer, some type of software must translate the keystroke between the two computers. In the words of Paul Buchanan, protocols "...are the glue that holds the network together." The glue is needed because computers run many different operating systems, and because operating systems handle work differently. While TCP/IP now is widely used though quite limited, Z39.50 is extending significantly the power of the older protocols, and offers ultimately to make possible the transmission of sound and image files.

Database linking

Stand-alone bibliographic databases abound in our world. And the task of sound/visual archives to establish bibliographic control over collections using computer databases constitutes a major challenge. This imperative grows much larger with the ability to link bibliographic databases with the actual digital sound files represented by the bibliographic entry. Both of these can then be linked with still and/or full motion image files. This capability will be available in the near future.

As an example of the power inherent in database linking for sound/visual archives users, consider the 78 rpm copy of Bessie Smith singing *St. Louis Blues*. The Orpheum Sound Archives at the University of Bougainvillea (UB) has a copy. It has entered a full bibliographic description and catalog record of the item into its linked computer database system. It also has four pieces of sheet music of the *St. Louis Blues*. The Black Orchid Film Archive (BOFA) has a videotape of the 1929 motion picture in which Bessie Smith sang that song. Furthermore, several books and journal articles in the collections of both UB and BOFA discuss the movie and the song, and W.C. Handy who wrote it. All of this information has been digitized for manipulation by a computer.

A researcher wanting information about this famous recording would first search both institutions' bibliographic databases from home, and learn about the information in all these formats on the *St. Louis Blues*. Sitting at her/his own workstation, the researcher would listen to the digital recording, view the label in color still image, play the digital copy of the motion picture file, and study the text of monographic and journal literature about the performance. The computer would carry communications protocols, copyright clearance

records, payment accounts, and other necessary files to allow the transparent search and retrieval of these files from UB and BOFA. Moreover, all of these files could be downloaded to computer discs or encoded onto write once/read many (WORM) laser discs for later use. Sound, text, still image, and motion picture media have been freed of geographic constraints. And the information contained in sound/visual archives of UB and BOFA have become as readily available as print media.

Computing and telecommunications advances will make this happen. They also will link sound/visual archives around the world together and allow the gathering of materials originally produced in disparate formats by interested persons who have no computer knowledge.

Conclusion

This hope now spurs interest in several sound/visual archives projects which are exploring new applications of computing and telecommunications advances, three of which were reported upon at the IASA annual conference in Canberra, Australia in 1992. These projects look forward to a day when sound/visual archives, like manuscript and print libraries, will have the ability to deliver to students, researchers, and the casual reader /listener /viewer the full record of human knowledge and experience.



**AV ARCHIVES IN
AUSTRALIA**



NATIONAL FILM AND SOUND ARCHIVE

*Ray Edmondson, National Film
and Sound Archive, Canberra*

The NFSA is the federal government authority which acquires, preserves and provides access to a national collection of sound and screen materials - radio, television, recorded sound, film and video. It strives to be a service oriented organisation recognised for excellence in managing a quality collection. It is believed to be the largest AV archive in the S E Asia/ Pacific region, and the only organisation in Australia devoted solely to AV archiving.

It is a young organisation, in the process of becoming a statutory authority. It was established in 1984 and based on the former film and sound archive sections of the National Library of Australia. Since that time its staff has grown from about 40 to, currently, around 140 and its annual budget is about \$8 million Aust. Its headquarters are opposite - in one of Canberra's most treasured buildings - while its main collection storage facilities are 10 minutes away in the industrial suburb of Mitchell.

As a national collecting institution it is headquartered in the national capital. But most Australians live in the state capitals, so the NFSA has permanent offices in Sydney and Melbourne, linked by computer and providing acquisition, access and other services. It also has access centres in Brisbane, Hobart, Adelaide and Perth.

The collection numbers an estimated 2 million items in all AV formats, paper based formats, objects and artefacts. Within a major housekeeping exercise, codenamed COMAT, much of this material is currently being sorted, consolidated, relocated and brought under management control within our new computer system, AIMS. Collection growth and refinement is governed by a well developed Selection policy, embracing both Australian and overseas material, and allows for the strengths and specialities of other institutions so that needless duplication is avoided.

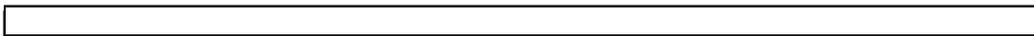
The NFSA has well equipped audio, video, film and conservation laboratories and in which, to varying degrees, capabilities and skills now vanishing from the commercial industry are nurtured and maintained. Almost all copying for both preservation and client access purposes is done in house. Current preservation projects include the dubbing of lacquer broadcast discs onto quarter inch tape, copying of 2" quad videotapes to current professional formats, copying of nitrate film to acetate base, and the recovery of deteriorating audio tape.

Although greatly curtailed during the COMAT project, access services are diverse and normally available to all, within practical limitations. Auditioning and custom copying services are heavily used by researchers and the media industries; members of the public can

buy selected collection items on CD and cassette; and material is constantly supplied for exhibition, broadcast or screening.

Part of our role is to encourage and service the research of others, but within strict resource limits NFSA undertakes strategic projects of its own. Currently, these include development of curriculum materials in the growing area of Australian studies, and a major book on pre-television radio.

The \$4 million corporately funded Operation Newsreel project - to catalogue, store and preserve Australia's surviving cinema newsreels - is an example of how sponsors assist all areas of our work.



AUSTRALIAN WAR MEMORIAL

George Imashev, Australian War Memorial, Canberra

The purpose of the Australian War Memorial is to commemorate the sacrifice of those Australians who have died in war. The Memorial's mission is to assist Australians to remember, interpret, and understand the Australian experience of war and its enduring impact on Australian society.

It does this in a variety of ways. One particular important way is by the establishment of a national collection of historical material. Historical material is defined as 'material relating to Australian military history,' and that history is of 'wars and warlike operations in which Australians have been on active service, including events leading up to, and the aftermath of, such wars and warlike operations and the defence force.'



The role of the Memorial's Sound Collection is to collect sound recordings relating to Australian military history. It contains oral history recordings, music of the period, and radio interviews and programmes. The physical characteristics can be a wide range of materials, including gramophone discs, magnetic tape, paper documentation, and equipment used for the recording and dissemination of sound material.

The Sound Collection was established during the Second World War. It consists of five broad categories: contemporary recordings, radio programs, music, statements of reminiscence and interviews. The first three categories contain original records used to broadcast wartime messages, program developed by the Army's Directorate of Public Relations, and recordings of military tunes and regimental marches played by Australian military bands. The reminiscences were obtained as a result of a project between the Memorial and the ABC which was started in 1953. Each consists of an eight hundred word statement by an eminent wartime Australian.

The major part of the Sound Collection consists of interviews, which are of recent origin with sixty percent being the result of the Keith Murdoch Sound Archive of Australia in the

War or 1939-45 project. Its aim was to create a collection of oral testimony to answer the question "What was it like for Australians to experience the Second World War at home and overseas, in the services or as civilians?" The archive consists of just under 400 interviews and includes an interview, a transcript, and an index.

The total Sound Collection consists of over 5000 discrete items of discs, audio tapes and audio cassettes. Only those items that have completed the conservation and documentation programs are available to researchers. The Keith Murdoch Sound Archive, which was established as an independent project, is available to researchers.

Conservation consists of providing purpose built storage facilities and the implementation of a copying program. We copy the original carrier onto 1/4 inch audio tape. For the preservation copy we use AGFA 468 tape (10 inch reel) with a recording speed of 19 cm per second for voice and 38 cm per second for music. The duplication copy (working master) is recorded simultaneously but onto BASF 911 tape using two Studer 2 track A810's. A cassette is made for reference purposes.

All documentation is carried out by using the Memorial's recently developed computerised Collection Management System which is part of the overall network. It is based on high standard IBM PC equivalent hardware running Microsoft DOS and WINDOWS operating systems, networked using Ethernet and the Novell Netware network operating system.

The last ten years has seen a dramatic increase in preserving orally the wartime experiences of Australians. The present collection is growing at the rate of nearly 200 items per year despite the limited resources available. Hopefully the future will see efforts being made to cover the Korean, Vietnam and Gulf wars and the peacekeeping forces in Cambodia. Greater use of the purpose built interview studio is also expected.

NATIONAL LIBRARY OF AUSTRALIA

*Kevin Bradley, National Library of
Australia, Canberra*

The National Library of Australia is the major information, reference and document supply source for the people of Australia. It has, as the primary objective of its collecting and collections, to serve the needs of Australians, individually and through other institutions, who are engaged in the creation, interpretation, exploitation or dissemination of knowledge, particularly in those areas that relate to the development of Australia as a nation.



It collects materials deriving from Australia, Australians overseas and about Australia itself, and those materials which will assist Australians to have a full understanding of the political, social, cultural, economic and technological developments around the world.

Within this comprehensive collection of printed materials, manuscripts, music, maps, film and pictorial collections are various collections containing recorded sound. Though the

music collection contains a number of significant music performance tapes, and the general collection has audio tapes in the mixed media materials. I will concentrate on the Oral History section, which collects the majority of the recorded material in the Library, and the Sound Preservation and Technical Services section, which looks after it.

The Oral History collection acquired its first recorded interviews in the late 1950's when it acquired the tapes of pioneer oral historian, Hazel de Berg. The collection now contains 63,000 individual audio tapes, consisting of mostly original material as well as some duplicates, on a large variety of reel and cassette formats. They are stored in the Library's environmentally controlled tape store at 17°C and 30 % R.H.

The Oral History collecting areas can be divided into three main fields.

Oral Histories of eminent or remarkable Australians, the stories of the men and women of Australia, who conspicuously shaped history, in their own words, the well known achievers and the less well known. A mixture of biographical and autobiographical detail.

Social History, interviews with members of communities, the stories and events in Australia's history as related by those involved. These interviews compose a research resource that forms a picture of Australian history from the viewpoint of the people who were involved or affected by the events.

Folklore is inextricably linked with the social history material. The Library aims to make recordings that are representative of the many communities in Australia. This material is not an isolated antiquarian study, the Library encourages its collectors to recognise the interplay of the commercial and contrived with the locally generated material. The collection contains song, music, dance, tales, yarns and the like from all parts of Australian society and history.

Material in the collection is recorded by subject specialists contracted to the Library, either in our recording studios or with the supplied portable equipment. Recordings can be reminiscent, looking back on a life, or contemporary, conducted with people at the height of their career.

Where the Library actively collects, the material is recorded on 1/4" analogue reel and, more recently, DAT, equipment and tape supplied by the Library. However we also acquire formed collections on, where possible, the original media. In these situations, the envisaged preservation costs, as well as the intellectual content is taken into account when considering acquisition.

To maintain and preserve its collection, the Sound Preservation area runs three control rooms, and two recording studios. Acquisition, access and preservation are all linked, the achievement of one necessarily means the accomplishment of the other. There should, according to our technical standards, be three copies of any item: a preservation duplicate, an unfiltered copy of the original if it is unstable, or the original itself, if it meets our preservation standards; a working duplicate, which is a filtered duplicate of the sound; and an expendable user cassette with which we provide access and listening copies.

All listening is free, however a charge is imposed to cover the cost of materials for a copy of an item.

The Library has an active publication program, and increasing array of material relating to the Oral History collection is being published, both sound and print. Publications range from dance music in northern NSW to "Self Portraits" of Australian Artists.

Access is controlled by three parameters:

First, the documentation. Originally all the information was stored on a card catalogue, but in the past decade it has been stored on the Australian Bibliographic Network (ABN), the Library's nationwide data base, which can be accessed in all the subscribing libraries and institutions, using an increasing array of sophisticated search options.

Second, the rights in the material that are set out in the permission forms, where the interviewee can specify access to the material in a variety of situations.

Finally, the preservation condition. Access is through a duplicate of the original, so access is dependant upon the copies being available. The Library has a commitment to the preservation of the recorded sounds it hold. The recording is regarded as the primary document, and we are continually involved in ensuring that future as well as present researchers will be able to use our collection.

STATE LIBRARY OF SOUTH AUSTRALIA: MORTLOCK LIBRARY OF AUSTRALIANA

Beth M. Robertson, Andrew Piper, Adelaide

The State Library of South Australia is in the city of Adelaide and serves a population of one and a half million people. I would like to highlight the important role that regional institutions, with very modest resources, are playing in the area of sound preservation.



Broadly speaking, our State Library is organised in two collections - the general reference library and the specialised Mortlock Library of South Australiana which includes published items and non-government archival materials relating to South Australia. Sound recordings have always been a small but significant component of our State Library's collections but until recent years the issue of preservation had not been a priority.

However two recent initiatives in the Mortlock Library have seen our State Library become involved in sound preservation.

The first stimulus was in 1987 when our Libraries Board funded the establishment of an oral history collection as the central repository for oral history recordings in South Australia. Interviews conducted or commissioned by me as Oral History Officer form only a very small proportion of the collection. Most of the collection is donated from community based interviewing programs and it has grown very rapidly, from an initial 300 hours of material in 1987 to 1,700 hours in 1992. The majority of these donations are recorded on four Marantz CP430's that we lend free to current interviewing programmes.

The establishment of archival standard tape duplication facilities was quickly determined as a priority, not only to provide professional preservation facilities, but also to give staff *access* to the original recordings.

Colleagues at the national institutions here in Canberra have been very generous in their advice. However it has certainly been a challenge to scale down national models to locally affordable alternatives.

We have to date put together two Otari MX-5050BII reel recorders, two Nakamichi MX-5050BII reel recorders, two Nakamichi MR-1 cassette recorders and a Thorens TD 520 turntable. A second hand National reel recorder lets us patch in any open reel recordings that need to be played at 1 7/8 ips. Sound technicians sub-contracted from a local company follow standards adapted from those provided by the National Library. Again, some compromise is involved - the substitution of 7" for 10 1/2" reels of BASF 468 and the retention of the original recordings as the duplicate master instead of the production of a second open reel copy.

Using these procedures we have kept pace with the growth of the oral history collection in the production of both preservation and public use copies.

The second stimulus was the amendment of the legal deposit provision of the South Australian Libraries Act in 1989 which now requires South Australian publishers of audio-visual and other non-print items to deposit a copy in the State Library. State Library staff lobbied for this change and South Australia is one of the few Australian states to actively collect local non-print publications.

Over the last two years Andrew Piper and his colleagues have built a collection of 1,500 audio-visual titles, supplementing the receipt of current legal deposit items with a retrospective purchasing campaign at record fairs and auctions.

As there are no major recording labels in South Australia the collection is comprised mainly of independent releases of limited pressings. Most ambitious South Australian musicians feel the need to move interstate in order to pursue their careers. Our legal deposit collection will ensure that their earliest and rarest works are preserved. It also ensures that future discographers of bands of more dubious distinction, such as Psycho Zombies, Septic Sawblades and Utter Stench, will also not be disappointed!

We collect audio material in any format, with a preference for compact discs where possible. To date, due to financial constraints, preservation procedures involve the purchase or production of cassette and video copies for public use and the appropriate housing and storage of the original items. The duplication of compact discs, cassettes and videos has been contracted off site, and the copying of vinyl records has begun using the oral history collection's equipment and contract technicians.

Both the non-print publications and the oral history collection are fully catalogued and described using the Inmagic database package.

In these ways the two newest and most rapidly growing parts of our sound collections are being preserved and made accessible to the public. There are other very significant groups of sound recordings in our State Library - such as the Purches Collection of about 15,000 jazz and popular music records of the 20's, 30's and 40's and over 500 hours of recordings held in the reference library's Special Collections which include in-house recordings of early Adelaide Arts Festivals and field recordings of eminent anthropologists. More recently

Mortlock's archival collection gained 300 hours of Australian radio plays on transcription discs as part of the General Motors Holden record group.

Plans for the active preservation of these collections are now being informed by the activities of the oral history and South Australian published collections although their realisation is currently unfeasible. However we are pleased to have had the opportunity to report to you today the real progress made by our institution to date.

THE AUSTRALIAN ARCHIVES AND ITS SOUND HOLDINGS

*Guy Petherbridge, Margaret Chambers,
and David Roberts, Australian Archives*

Introduction

This presentation briefly outlines the mandate, structure and operations of the Australian Archives with particular reference to our recorded sound holdings. It addresses our functions and clientele, our collecting brief with respect to intellectual content and media, the size of our holdings and of the audio component (listing some of our more significant audio items), methods of preservation, and our electronic information retrieval system.



Guy PETHERBRIDGE

The Australian Archives, as the archival authority of the Commonwealth government defined by the Archives Act 1983, is responsible for the broad management of records created by agencies of the Commonwealth government. There are regional offices in each of Australia's six states and two territories, and one local office in North Queensland. Generally, records are held in the region where they were created.

Perhaps it may be useful to clarify here that the word 'record' in our terminology refers to any medium or format on which information is recorded (and not only the recording discs known generally as records). The Australian Archives holds records in a variety of media. Whereas most are on paper, including files, cards, volumes, plans, charts and drawings, there are significant holdings of photographs and motion picture film, video tapes, computer tapes and discs, three-dimensional models, and, most relevant to this conference, sound recordings in several formats.

Functions and Clientele

The following are primary functions of the Australian Archives as set out in the Act:

"To ensure the conservation and preservation of the existing and future archival resources of the Commonwealth; to encourage the preservation of other archival resources relating to Australia; to promote efficient and economical record keeping of the records of the Commonwealth; to identify records which merit permanent retention; to have the custody and management of the archival resources of the Commonwealth; to encourage the use of archival material; and to make records available for public access."

The clients of the Archives are twofold: agencies of the Commonwealth government and the general public.

Government agencies whose records we hold are our major clients. Our services include storage of records, records lending to agencies, training of agency staff in sentencing and disposal, supervision of destruction of non-permanent records, advice on archival matters, and assistance in referring to non-current records, for example in writing corporate histories.

Our major client in relation to sound records is the ABC, the Australian Broadcasting Corporation. As an extension to the lending service provided to all agencies, we transmit sound recordings to the ABC Radio Archives by means of a landline (thus enabling ABC radio programmers direct access to sound archives held at the Australian Archives).

Members of the public have a statutory right of access under the Archives Act to records which are over 30 years old, subject to access examination to identify information which is exempt under the Act. Enquiries from the public include genealogical and personal rights cases, and historical research, both academic and amateur. Some enquiries arise from commercial and media interests. Public enquiries relating to sound records currently form a small percentage of our work.

The Australian Archives has search rooms in each regional office and reference staff to assist with enquiries. While sound and other audiovisual materials are held in each state, the major holdings are in our New South Wales Regional Office repository at Villawood (an outer suburb of Sydney, New South Wales), where the Newton Hobbs Audiovisual Studio and our ABC land line terminal is located. This concentration of records in this location is primarily because Sydney is the main centre of activity of the ABC, Film Australia, the Australian Film, Television and Radio School, Special Broadcasting Service (SBS) and other agencies which are the Australian government's primary creators and users of audiovisual materials. The Sydney search room also has facilities specifically dedicated to access to audiovisual records, although access to most materials can also be made available at any of our search rooms nationally as the need arises.

Collecting Brief: Intellectual Content and Media

Although not a collecting institution in the normally-accepted sense of the term, the mechanism by which the Australian Archives acquires custody of its holdings is established by the Archives Act 1983. The archival status of Commonwealth government records (i.e. whether they be held permanently or for a specified time) is determined through the medium of instruments called Records Disposal Authorities. Those records which are determined to be of permanent value and which are over 25 years old are required to be transferred to the Australian Archives. They may be transferred earlier if they are no longer required for the operations of the agency (a schedule which may also be encouraged if in the best preservation interests of master audiovisual material). These permanent records are, of course, the primary focus of our holdings, but we also hold a significant proportion of temporary records as a service to government agencies, as well as records awaiting evaluation. In addition, we hold some records of persons who have been closely associated with the Commonwealth.

The Australian Archives does not regard sound recordings as a separate entity because of their format or medium (as in some other archives). Our sound holdings undergo the same general control sequences and processes as other archival records (although with specifics varying according to particular record or format needs): documentation, preservation (including duplication where appropriate), appraisal, disposal/retention action, and provision of official and public access.

Size of the Collection and of the Audio Component

The total quantity of records of all formats held in our repositories throughout Australia is approximately 500km (494 at our latest count), although not all are destined for permanent retention. As I have just mentioned, the Australian Archives' main sound holdings are held in the New South Wales Regional Office. Approximately 60,000 audio discs and 40,000 audio tapes are held in the permanent collection there, and other regional offices also hold some sound records. As also mentioned, many were created by the Australian Broadcasting Corporation. These include tape recordings of ABC radio and television programs, commercial recordings, tapes of music from Australian composers, concert tapes, and copies of audio-cassettes produced for sale. A collection of reference cassettes also has been assembled, built up as copies are made of particular items, to facilitate access and promote preservation by reducing use of original records, and these can be made available in our search rooms across the country.

Besides the rich ABC sound materials, the following list will give a sense of the range of other sound holdings of significance in the Australian context (some of immediately identifiable general historical appeal, others of more interest to those with specific research interests):

- Tape recordings and cassettes relating to Aboriginal culture produced by Film Australia, c1965-1979,
- Tape recordings relating to World War II intelligence operations and activities of the Allied Intelligence Bureau and successor agencies, 1942-1975,
- Patent Office copies of sound recordings as exhibits in applications for copyright, [1907-1969],
- Sound recordings of entries submitted to the Australian National Anthem and Flag Quests Committee, 1971-1974,
- Shellac discs of music recordings from the Film Division of the Department of Information/Australian News and Information Bureau, 1946-1968,
- Audio cassettes containing publicity from the Australian Bicentennial Authority, 1980-1988,
- Tape recordings of the proceedings of the 18th International Dairy Congress, 1970,
- Gramophone recordings produced to publicise the activities of the Rationing Commission, 1942-1945.

Methods of Preservation of Audio Material

Preservation of audio material in the Australian Archives currently focuses on developing a sound knowledge of records materials, their processes of deterioration, and the attendant provision of appropriate climate-controlled storage environments, archival containers and enclosures, and handling and use procedures. The emphasis is on a macro-preservation approach with minimal intervention in the integrity of original material, and on the development with government agencies of proactive processing and preservation policies to ensure that audio material is received by the Australian Archives in the most favourable condition. The provision of access through copies rather than the original, wherever feasible, is also a significant component of our preservation policy, as is copying to more stable media if originals are in an unstable condition. The Australian Archives is actively monitoring the development of new audio and audiovisual media and technologies to determine appropriate future copying strategies and arrangements.

The Australian Archives' emphasis on preservation is indicated by the fact that its Audiovisual Studio at Villawood forms part of the New South Wales Regional Office's Preservation Services section. It is staffed by two audiovisual officers. As an agency of the Commonwealth of Australia we also have access to advanced audio expertise in other agencies with strong audiovisual interests and technical capabilities.

Retrieval system

Finding aids, both manual and computer based (in a national system linked through a central computer in Canberra), are available at the series/accession and item levels. Records are documented within the administrative framework of their creation. This means that we document the government agencies which created and now control the records in a hierarchical system and through time. For each agency it is possible to identify series or accessions of records created or controlled. For each series or accession, lists of individual items should be available (some accessions transferred in the past are lacking item lists, but our own staff are gradually compiling these lists).

The computer based retrieval system for information about agencies and series/accessions, termed RINSE (Records Information Services), is available in Australian Archives search rooms at each regional office. This is a structural guide. Clients are advised to identify records at series or accession level which may be relevant to their enquiries.

We also have a national item level database, ANGAM II (the Australian National Guide to Archival Material). While this is of great and increasing assistance to enquirers, entries are in most cases limited to those items which have previously been cleared for public access. Although there is a keyword search facility, this relates to the original item titles which may be misleading. However, it is a most valuable tool for commencing and supplementing research through the manual structural guides and RINSE.

In addition to the above finding aids, we have compiled, both at national and regional levels, various specific functional and subject based guides. One such publication, the *Guide to Sound Holdings held by the Australian Archives in New South Wales*, has been updated and is now available for sale. Together with our other Australian colleagues responsible for the corpus of our nation's sound and audiovisual archives we are delighted and honoured to be your hosts and to have the opportunity to reciprocate the hospitality and the open exchange of professional knowledge of which we Australians have so often been grateful recipients elsewhere.



AV MEDIA AND INTERNATIONAL INTELLECTUAL PROPERTY

Hector L MacQueen, Senior Lecturer, Faculty of Law, University of Edinburgh; Senior Lecturer, Faculty of Law, University of Edinburgh

Presented in the Copyright Committee Open Session at the IASA/ASRA Conference, Canberra, 1992

Introduction

The subject-matter of this paper is the international law relating to copyright and neighbouring rights. International law is mainly concerned with such matters as relationships between States in matters such as diplomatic relations, war, the sea and even Outer Space, so I begin with an explanation of why a regime of international law is needed in such a seemingly domestic topic as copyright. The first and obvious point is that for many copyright works there is a market which extends beyond national frontiers. But no system of copyright law established by any particular State can extend beyond national frontiers, unless there is agreement about the matter between different States. For example, the mere fact that I can claim copyright for this paper in the United Kingdom by virtue of my citizenship there does not mean that I can claim copyright for it anywhere else. United Kingdom law can only apply in the United Kingdom. Further, even if I have copyright in more than one legal system-- let us say, for example, that because I read this paper in Australia that I can claim copyright there too-- it does not necessarily follow that my protection in that system will be exactly the same as that which I could claim in the United Kingdom. It is up to each national legislature to decide what the content of its copyright law should be.

The need for international enforcement to ensure adequate protection of right-owners, and the avoidance of disparate national laws, provide two reasons for an international copyright regime. A further problem can arise with the national legal system which decides not to grant copyright to foreigners, or to grant it in only a very limited way, thus enabling the system's nationals freely to exploit the works in question. This is so whether or not nationals themselves can claim copyright in their own works; for example, as we heard at the conference, there is no copyright legislation at all in Papua New Guinea. It is worth remembering that in this matter a clash of cultures often arises. In the Western and developed world, we think of copying another's work as an offence, reflected in the Latin root of the word 'plagiarism'; *plagium* means the theft of a child. In other cultures, however, imitation is indeed the principal form of flattery, and the copyist is seen as honouring the originator. So the norms underlying copyright law are not necessarily universal.

If a country fails to grant copyright protection to foreigners, however, this can be bad for its international relations. It can look to outsiders as though the country is in effect stealing or 'free-loading' on their material. But in thinking about this, the problems of the receiving country need to be kept in mind. If outsiders are given strong rights, then the country can

only get access to their material at the outsiders' prices, which may be more than the country can afford. This is a particularly important issue for developing countries seeking access to the copyright and other intellectual property (notably patents for inventions) of developed countries. The problems of technological and information 'gaps' between the developed and the developing world may be perpetuated if the latter is not allowed to take a more relaxed approach to intellectual property rights by granting rather lesser forms of protection than would be found in the former.

All these factors explain why it has been found necessary to establish international regimes for intellectual property generally, and for copyright in particular. As already hinted, the problems outlined have been resolved, in part at least, by a programme of international action and agreements or treaties or conventions in all fields of intellectual property. Much of this takes place under the aegis of the World Intellectual Property Organisation (WIPO), an international organisation itself set up by international agreement in 1968. For copyright, the most important conventions are the Berne Convention, established in 1886, the Universal Copyright Convention (1952), and the Rome Convention (1961). The system is far from complete, and continues to develop at various levels; for example, the current, albeit stalled, 'Uruguay Round' of the GATT (General Agreement on Trade and Tariffs) talks includes discussion of 'Trade-Related Aspects of Intellectual Property' (acronym TRIPS). If the gist of this is implemented (which seems unlikely), it will be a major advance in international intellectual property rights.

The general principles of international copyright protection

Five general principles have informed the development of international copyright protection.

(i) Recognition that foreigners may have rights

A country which is a member of the Conventions must allow foreigners to be able to acquire rights in it, and not limit its protection to nationals or works first published in the country.

(ii) National treatment

However, the member country need only offer foreigners the same level of protection as it offers its own nationals. In other words, foreigners do not carry their own national rights with them around the world; they get only the rights available under the national systems of the other countries.

(iii) Connection

A national system need only protect foreigners who are connected in some way with another member country of the Convention in question. Connections arise as follows:

- (a) by virtue of nationality of or habitual residence in a Convention country;
- (b) if the author is not a national of a Convention country, by first publication of his work in a Convention country;
- (c) in the case of a sound recording, first fixation in a Convention country;
- (d) in the case of broadcasts, first transmission in a Convention country

(iv) *Minimum legislative standards*

The Conventions impose certain minimum requirements as to the content of the copyright laws of member countries. It is important to realise that this does not lead to uniformity of copyright laws around the world. The Conventions cover only basic points of principle, and indeed often expressly confer discretions on the member countries. For example, with regard to duration of copyright, the Berne Convention imposes a minimum term of lifetime plus 50 years; but member countries can give longer periods of protection if so moved. Thus Germany gives copyright protection for lifetime plus 70 years. There can still be problems, therefore, with disparities between national laws. In a recent European Community case, for example, a German recording company held the German copyright in certain sound recordings. In Denmark, the copyright in the same recordings had expired. An issue arose because someone bought the recordings in Denmark and tried to import them into Germany for resale there at a much lower price than the products of the German recording company. It was held that European Community law on the free movement of goods between Member States did not prevent the use of German copyright law to stop the import from Denmark, but the parties had to go all the way to the European Court of Justice to settle the point (*EMI Electrola GmbH v Patricia Im- und Export* [1989] ECR 79).

(v) *Reciprocity*

This principle controls possible unjust effects of the 'national treatment' principle, given that copyright protection is not uniform around the world. If X from country A offering only weak copyright protection seeks national treatment in country B which offers strong copyright, B's courts may take account of the lack of reciprocity between the two systems and not give X the full protection he seeks. Thus if in *EMI Electrola* the Danish producers had tried to use German copyright law for example, by suing Germans making copies from their recordings-- the German courts might have pointed out that the Danes would get no such protection in their home courts as a reason for refusing to give protection in Germany.

These five principles hang together to form a balanced structure of international copyright protection. If any one principle is allowed to dominate, the delicate balance of interests can disintegrate. This can be seen from the recent history of the international protection of semiconductor topographies (also known as integrated circuits or mask works), which are critical to the operation of computers. The USA was the first country to grant a special form of intellectual property protection for this kind of work. In its Semiconductor Chip Protection Act 1984, the USA provided that foreigners would only enjoy the benefits of the legislation if their own country provided reciprocal protection to American producers. This led to a scramble throughout the world to enact legislation on the lines of the American model, the USA being the world's biggest computer market. In Australia, for example, see the Circuit Layouts Act 1989. Naturally the USA law was strongly protective of producers. But the reciprocity approach of the 1984 Act created difficulties for countries without an indigenous computer industry who nonetheless needed access to the semiconductor technology. WIPO tried to improve their position with an international Convention which sought to balance the interests of producers and users, but because the USA, Japan and other developed countries have refused to sign it, it is effectively a dead letter. The result is that here the information and technology gaps remain, and are more likely to grow than not.

This story shows that not all is sweetness and harmony in the development of international intellectual property. Other examples of this kind of unresolved conflict could be given, such as the failed 1967 revision of the Berne Convention in favour of developing countries, and the difficulties experienced in the TRIPS talks. Nonetheless, it is possible to see that much has been achieved. Despite the 1967 revision problems, the Berne Convention celebrated its centenary by welcoming the USA to membership alongside more than 80 other countries.

Berne, which covers literary, dramatic, musical and artistic works along with films, has therefore a near-worldwide membership, the major gaps being constituted by the former USSR and a number of Asian countries. So far as the former USSR is concerned, the position was covered instead by the Universal Copyright Convention, the membership of which otherwise is much in line with Berne; but I am afraid that I am not sure what is happening with regard to the new CIS and its constituent states. The Eastern European countries are nearly all members of Berne, however. The Rome Convention, which deals with sound recordings, broadcasts and performers' rights, has a less extensive coverage, but has nonetheless over 30 members. The most crucial gaps are in Eastern Europe and Asia. It is expected that membership will continue to expand.

The basic practical proposition which follows from this is that whatever the country of origin may be of any material with which you are working, there is a strong chance that it will be entitled to the protection of copyright under your national system. What you need to check on is the following: to here

- of which Conventions is your country a member?
- with what countries are the authors/producers of the material connected
 - by nationality or residence?
 - by first publication, fixation or broadcast?
- are these countries Convention countries?

Mutatis mutandis, the same procedure should be followed if you are wanting to use a copyright abroad, whether by licensing or, perhaps, actually suing foreign infringers.

You can find out what is the up-to-date position on Convention membership by contacting WIPO. Its address is:

World Intellectual Property Organisation
Copyright Law Division
34 Chemin des Colombettes
1211 Geneva 20
Switzerland
Tel: (22)7309111 Fax: (41-22)733 5428

It is also worth checking your national legislation to see if it makes any special provisions on persons or works qualifying for protection in your country. There is nothing to stop national legislation going further than the Conventions. Thus in the United Kingdom, the Copyright Designs and Patents Act 1988 has rules for the British Commonwealth, the Channel Islands, the Isle of Man and Hong Kong, which go beyond Convention requirements.

The substance of Berne and Rome

I turn now to deal with some of the more relevant provisions of the Berne and Rome Conventions, which are the most important international agreements in the field. In particular, since the USA joined Berne, the UCC has become less significant. At the outset, however, it is worth making the point that the rules of the Conventions do not necessarily create directly enforceable rights for individuals but have to be carried further into effect by appropriate legislation in each member country.

(i) *What works are covered?*

Berne deals with literary, dramatic, musical, artistic and film works, and is primarily concerned with authors' rights. Rome covers sound recordings, broadcasts and performances, and is concerned with the rights of producers or neighbouring rights. The two often go together, however, since in any manifestation of a work there will often be more than one copyright involved. In a sound recording, for example, there may be author's rights in the words or music recorded as well as the producer's rights in the recording itself. Similarly there may well be authors' rights and sound recording rights in broadcasts and films, while in all audio-visual media account may have to be taken of performers' rights. A complex legal situation may be made even more difficult, therefore, if a country is a member of only one of the Conventions. Things can be simple occasionally, however, as when a sound recording is not an embodiment of a Berne Convention work; for example, when it is a record of the sounds of wildlife, machinery or other effects. Here the only copyright will be that of the record's producer.

The first issue with which I wish to deal is how the Conventions deal with the copyright of the author, if any, in unscripted words (as in an oral history interview, for example) and improvised music or drama. Berne does not face this question directly. Article 2(1) provides that every production in the literary, scientific and artistic domain is covered, *whatever may be the mode or form of its expression* (emphasis supplied). It then gives a non-exhaustive list of examples, which includes 'lectures, addresses, sermons and other works of the same nature'. These all have the characteristic of being primarily spoken works, and may suggest that the spoken word has copyright, without needing to be reduced to permanent form such as writing or other record. However, all the examples are relatively formal in nature, being set-pieces addressed to an audience, and can be distinguished from conversational speech quite readily.

Nonetheless it is clear that Berne does not preclude the recognition of informal speech, improvised music and so on as works capable of copyright protection. This is now accepted in a number of member countries. Under the United Kingdom Act, for example, literary works may be written, spoken or sung. (See my article in *Phonographic Bulletin*, no 57 (1990) pp. 32-4.) But it is important to take note of Berne Article 2(2), which states that it is for national legislation to prescribe that works in general shall not be protected unless they have been fixed in some material form. Thus the United Kingdom Act says that spoken and improvised works must be recorded in some form, be it writing, tape, shorthand or some other record. Similar provisions can be found in American and Australian copyright law. On the other hand France and Germany allow copyright to the unrecorded oral work (S Ricketson, *The Berne Convention 1886-1986* (1987) para 6.13). Article 2(2) does not require permanent form for copyright to exist; the advantage of this is that an unauthorised record of speech or unrecorded music becomes an infringement of copyright. The difficulty is that the lack of form makes it difficult to determine in exactly what copyright subsisted.

(ii) *Who owns the rights?*

If Berne recognises the possibility of copyright in purely oral works, the question arises of who owns it. Berne is generally in favour of 'the author', but carefully does not give a definition of who is an author (this is said to be one of the Convention's great weaknesses). In the case of speech and improvised music, the author is surely the person who speaks or improvises, being the originator of the material, although the person making a recording of the work will have another copyright in the recording as such (see further below). If the recorder wants to have the copyright, a formal transfer (assignment or assignment) will have to be executed.

A further possibility with speech, music and drama is that there may be a performance, in which case the Rome provisions on performers' rights become relevant. Under Article 3 of Rome, a performer is an actor, singer, musician, dancer or other person who acts, sings, delivers, declaims, plays in or otherwise performs a literary, musical, dramatic or artistic work. It seems to follow from this definition that an extempore speaker is not a performer, because the definition supposes some pre-existing literary work which is then performed. On the other hand, it would be exceedingly difficult to say that the improvising musician is not also a performer. An additional complication arises from Article 9, which allows Rome countries to extend performers' rights to artistes who do not perform literary or artistic works. Examples might include conjurers and circus clowns, or even sports performers and those who hover between sport and art, such as synchronised swimmers and ice dancers.

The existence of author's copyright and performers' rights means that the person who records the work of authors and performers generally needs their authority before doing so. But the recording itself has legal protection as well, the benefit of which is enjoyed by the recorder. If the record is in written form (a transcript, or musical or choreographical notation), there is a literary work protected under Berne. Article 2(3) provides that translations and other alterations to previous works enjoy their own copyright as original works, whether or not they were authorised by the authors of the previous works. Where the record is on tape, Rome becomes the relevant Convention. Article 3 grants protection to the producer of phonograms. A phonogram is defined an exclusively aural fixation (film and video are therefore not covered) of sounds of a performance or other sounds, while the producer is the person or legal entity which first fixes the sounds. This leaves quite a lot unanswered - for example, the position where recording is carried out by an employee for an institution and this has to be filled in by national legislation.

(iii) What rights are conferred?

Berne Article 9 gives authors the exclusive right to authorise reproduction in any manner or form. Sound and visual recordings constitute reproductions for this purpose, underlining the point already made about the need to seek permission from authors before making such recordings. It also follows that express authorisation is needed before an institution can make further copies even from an initially authorised recording; for example, for purposes of preservation, conservation, back-up, library/archive issue or full-scale publication (see further (iv) below).

With regard to music and drama, the author has the exclusive right to authorise public performance and communications to the public (Article 11). Under Articles 11*bis* and *ter* the author also has the exclusive right to permit broadcasting, public recitation by any means or process, and the communication to the public of a recitation. This means that authorisation is needed before an archive permits its material to be used for any of these purposes, which could include playback or exhibition to groups or the public more generally.

None of this restricts access by users of the archive to legitimate copies of the material held there. Access does not involve reproduction or public recitation or performance. But those given access in this way are equally bound not to make reproductions of the material.

So far as the rights of the producer of a recording are concerned, Rome Article 10 provides that only the producer may authorise or prohibit the direct or indirect reproduction of the recording. If an archive is the producer of a recording, it has this right: but otherwise the producer's permission must be sought before any reproduction can go ahead. Again, however, access is not the same thing as reproduction.

As archivists may wish to record broadcasts for inclusion in their archives. But Article 13 of Rome says that the broadcaster has the exclusive right to authorise or prohibit the fixation of broadcasts, the reproduction of unauthorised fixations, and the reproduction of fixations made under the fair use provisions discussed in the next section.

Finally, performers have the right to prevent broadcasting or communication to the public of their performances; fixation of their performances; reproduction of unauthorised fixations; and reproduction of authorised fixations if the reproduction is for purposes other than those of the original fixation (Rome Article 7).

(iv) *Fair use*

The extensive rights of authors and producers under the Conventions are modified to some extent by fair use provisions, enabling reproduction in some circumstances without the need to seek authorisation. These are cast in permissive and general terms, so that it is necessary to look to national legislation for details. Further, it is permissible for national legislation not to provide for fair use, notably under the Rome Convention.

Article 10 of Berne allows (a) quotation compatible with fair practice and (b) utilisation by way of illustration in publications, broadcasts, or sound or visual recordings for teaching, so long as the use is compatible with fair practice. This might cover certain aspects of playback to groups, for example. Even more generally, Article 9(2) allows reproduction which is not in conflict with the normal exploitation of the work and does not cause unreasonable prejudice to the legitimate interests of the author. This might cover the making of back-up and preservation copies, and it has been suggested that it might legitimise legislation allowing home taping of music off air and records, provided that the composer was compensated through royalties paid from a levy on blank tapes and recording machines (S M Stewart, *International Copyright and Neighbouring Rights*, 2nd ed (1989), para 5.39).

Rome Article 15 allows fair use modifications in respect of the rights in sound recordings, broadcasts and performances, but like Berne leaves the matter to national legislation. It gives wider scope for private use reproduction (which would not extend to archives; to the use of short excerpts in reporting current events (for example, clips from a broadcast performance in the report of the death of an actor); and to the use of material solely for the purposes of teaching and *scientific* research (this being left undefined). National legislation may permit a broadcast on current economic, political or religious topics to be rebroadcast or communicated by wire (i.e. cable TV) to the public, always provided that this has not been expressly prohibited, and that the source is clearly identified (Berne Article 10*bis*).

(v) *Moral rights of authors*

Article 6*bis* of Berne provides authors with certain inalienable rights over and above copyright in their works. These are known as the moral rights. Whether or not it has had copyright assigned to it, an archive will have to keep these rights in mind. The author has the right to be identified as such (the right of paternity) and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to his work which would be prejudicial to the author's honour or reputation. Both need to be kept in mind in administration of the archive-- cataloguing identification and description, the way in which copies are preserved and issued, and so on-- and, even more importantly, in any publication or broadcasting of the material which may take place. With the latter possibility, for example, insensitive editing may lead to a claim of derogatory treatment. The rights must last for the author's lifetime, but Berne countries have the option to extend the rights posthumously; so again national legislation should be checked.

Producers of sound recordings, broadcasters and performers do not have any equivalent rights under the Rome Convention.

(vi) *Folklore*

Article 15(4) of Berne is the main example of a provision in favour of developing countries which I can find relevant to AV archives. In the case of unpublished works where the identity of the author is unknown, but where there is every ground to presume that he is a national of a Berne country, national legislation may designate a competent authority to represent the unknown author and to enforce his rights in all the Berne countries. A country wishing to do this must notify the designated authority to WIPO. This Article was inserted in the Berne Convention in 1967 at the instance of India. The purpose of the provision was to enable developing countries to exploit their folklore' (Stewart, *International Copyright*, para 5.63; see also Ricketson, *Berne Convention*, paras 6.82-6.84). When I enquired at WIPO in 1990, only one country had designated an authority to carry out the function of enforcing the copyright in folklore; unsurprisingly, given the origins of the Article, it was India. It is clear that folklore can have copyright, and that this is a matter which ought to be of interest generally to AV archives, not only in developing countries but in developed countries with a substantial minority culture, such as that of the Australian Aborigines, native Americans and the Scottish Gaidhealtachd. Perhaps members of IASA would care to take this matter up in their own countries.

TRADITIONAL AND CONTEMPORARY CONSIDERATIONS RELATING TO COPYRIGHT IN PAPUA NEW GUINEA

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Two incidents have taken place within the past month in Papua New Guinea which can serve to preface my discussion of local attitudes towards copyright. Firstly, the distribution of a book and film documenting a certain dance was blocked because some of the scenes photographed should not have been revealed publicly. As this project was funded by the European Community, it is not clear how future projects may be affected. Secondly, an Australian film-maker recently visited Papua New Guinea to return copies of his filmed documentation of initiation amongst a certain Highlands tribe. Some of the films had previously been deposited with my institute under the restriction that they were not to be shown publicly in Papua New Guinea. By returning the videos now, the film-maker returns the rights of access to the people concerned. I will refer further to these two events later in this paper.

Any discussion of copyright and music in Papua New Guinea must take into consideration many different inter-related themes. Of perhaps greatest significance, however, are questions of ownership and rights of performance and how this ownership and rights of performance may be passed on to others. Additionally, these issues need to be differentiated as they relate to either traditional or popular music.

For those of you unfamiliar with Papua New Guinea, I should briefly note that it is an independent nation, just to the north of Australia. It has a population of over 32 million people in an area about the size of Sweden. Over 750 languages are spoken, making it one of the most linguistically-complex places on earth.

This cultural diversity is important to keep in mind when listening to any discussion about traditions within the country—generalisations are extremely difficult to make and often result in gross oversimplifications. There will almost always be exceptions to such generalisations and, hence, my text is sprinkled with qualifiers such as “in most cases,” “usually,” “often,” etc.

Another essential aspect which needs to be stated at the beginning is that the separation of music from other cultural features is, in general, artificial in Papua New Guinea. As I shall explain in more detail later in my paper, music is only one essential ingredient of most performance and, hence, for the most part, it is unnatural to treat it as something separate. In most Papua New Guinea languages, words which would normally be treated as names of song types evoke many other aspects of their performance than just sound. Therefore, a discussion of conceptions about the copyright of music as a separate entity is, at best, awkward. Consequently, when I use the term “music” be aware that many non-“musical” things may also be included under this term.

Traditional music. With these qualifications in mind, it can be said that ownership of traditional music and dance in Papua New Guinea is most often with groups, rather than individuals. Exceptions are those such as the Dobu of Milne Bay Province where the composer apparently must give his approval before others can use his song, at least for a while after its composition.¹ Even in such a case, however, a song will soon circulate after it is publicly performed and through informal singing on canoes.

In general though, groups are the owners. In this case, “groups” may be clans, moieties, or whole villages, according to the specific part of the country under consideration and the particular music being considered. Those without the proper affiliation, will not be allowed to participate in such a performance, except as an on-looker.²

The knowledge to perform must then be acquired and the method of doing so is dependent upon whether or not you are a member of the owning group.

If you are a member of a group which owns the music concerned, it may simply be a matter of learning through participation. This is particularly true for music and dance that is performed publicly, without restrictions relating to age or sex. However, the knowledge to perform some music can only be acquired through ritual. The latter is especially the case with music belonging to specific cults where the knowledge of playing certain instruments or singing certain songs can only be obtained through initiation.

If, on the other hand, you are *not* a member of a group which owns the music, it may be possible for your group to purchase the rights to performance. For example, along the northern coast of Papua New Guinea, the lower Sepik River area is especially known as a place to purchase music and dance. In addition to adjacent areas, groups from more than 100

¹Reo Fortune, *Sorcerers of Dobu*, New York, Dutton, 1932, p. 251.

²For example, see Cyril Belshaw, *The Great Village*, London, Routledge and Kegan Paul, 1957, pp. 134–35.

kilometres away have been known to come there to acquire dances. Payment is traditionally made in items of traditional value, e.g., pigs, shell rings, feathers, tobacco and food. This is a purchase of the right to perform the music and dance, and also includes the other essential components of a correct performance such as magical preparations, decorations, instruments, plumes, dance skirts, masks, etc.³

Other parts of the country also engage in the purchase of performance rights. In an area to the east of the Sepik, in Busama village near the city of Lae, headmen arrange dances by inviting neighbouring groups to come perform. Hosts form the audience and keep guests supplied with refreshments and give gifts of pork, taro, sago, and coconuts. While some dances are local, others are purchased from areas considerably distant, e.g., the Talasea area of New Britain Island or the area around Madang town. In describing the acquisition of such dances, one author distinguished between the purchase of only performing rights and the more expensive purchase of, what he calls, "copyright."⁴ The latter apparently meaning the right to further sell performance rights or copyright to others. Obviously such occasions as these have an additional, important function in solidifying relations between groups.⁵

In describing these scenes of payments for the acquisition of performing rights for certain music and dance, it should not be assumed that such purchases only occur between unrelated, geographically separated, groups. Payment also frequently accompanies such important rituals such as initiation. Among the Tolai of the area around Rabaul at the northern tip of New Britain island, individuals go through initiation to obtain the right to compose songs and to teach others how to dance. An integral part of this is learning what magic substances to put into betelnut to "evoke, stimulate and inspire the sleeping talent of the person."⁶ Indeed, these different "schools" of initiation into music and dance are called *buai*, the same word meaning betelnut. Payment is made to the teacher/initiator in these cases.⁷

All of these descriptions have dealt with the acquisition of the right to perform certain music and dance. However, rights are not always obtained according to expected practice. In the area around the capital city of Port Moresby, "unauthorised use of a song or dance might

³Frank Tiesler, *Die intertribalen Beziehungen an der Nordküste Neuguineas im Gebiet der kleinen Schouten-Inseln* (Abhandlungen und Berichte des Staatlichen Museums für Völkerkunde Dresden, no. 30–31), Berlin, Museum für Völkerkunde Dresden, 1969–70, pp. 95–96; Margaret Mead, *Sex and Temperament in Three Primitive Societies*, New York, William Morrow & Company, 1963, pp. 8–9.

⁴Ian H. Hogbin, *Transformation Scene*, London, Routledge and Kegan Paul, 1951 pp. 136–37.

⁵For example, see Kenneth A. Gourlay and Students of Goroka Teachers College, *An Approach to the Traditional Music of Papua New Guinea*, Goroka, Goroka Teachers College, 1981, p. 20)

⁶Apisai Enos, "School of Music and Dance; Apisai Enos Interviews the Composer Turan," *Gigibori*, no. 3/2, April 1977, p. 3.

⁷Apisai Enos, "School of Music and Dance; Apisai Enos Interviews the Composer Turan," *Gigibori*, no. 3/2, April 1977, pp. 1–7; Richard F. Salisbury, *Vunamami: Economic Transformation in a Traditional Society*, Berkeley, University of California Press, 1970, p. 293.

have led to war”, the only legitimate means of acquiring such rights was through purchase.⁸ Short of war, such transgressions may minimally result in the payment of a significant fine to the offended group.

In any such discussion of the acquisition of performing rights in Papua New Guinea, it should be noted that the myths explaining the origins of male cult music frequently begin with the ownership of such music being with women, to the exclusion of men. Often the men covet the music because of its beauty and power and eventually end up stealing it from the women. After which time, it becomes the carefully-guarded secret of the men. In this case, copyright is not taken into consideration and today it is felt that it is only proper that men be the guardians of such powerful ritual.

As has been mentioned in passing, performance rights in Papua New Guinea are not simply tied up with the reproduction of sound. In most areas of the country, a correct performance of sounds is intimately entangled with movements, feasting, decorations, preparations, time of day, occasion, venue, social status, age group, magic words and substances, etc. Performers have obligations through their performance, not only to the living “owners” of these traditions, but also have very serious obligations to appropriate gods, spirits, and/or ancestors. Failure to follow established ritual during such a performance could lead to crops failing, unsuccessful trading expeditions, or death.⁹

Yet, even in situations such as initiation where there are very strict regulations regarding the occasion and the participants, the sounds themselves are generally not restricted. In other words, the great secrecy frequently surrounds the fact that humans using instruments are producing sounds which are said to be the voice of a spirit. Often the instruments themselves, as material objects, are not considered secret. The sounds produced are usually heard by all. The restrictions, in this case, surround the knowledge of how those sounds are produced.

As mentioned earlier, the separation of music from other cultural aspects is often artificial in Papua New Guinea. Yet, precisely because such a separation *is* non-Papua New Guinean, it is a way by which some authors have been able to publish materials on secret ritual with the permission of the performers and other elders. For example, we recently published a book by Jürg Wassmann, *The Song to the Flying Fox*¹⁰—a very detailed examination of song-texts in the Middle Sepik area. The songs examined concern the migration of clan ancestors and the interpretation of these texts is learned in initiation. Because of the very secret nature of these songs, the author obtained written permission of the appropriate elders in the village. While some of the songs appear in both the local language and English, the songs have been extracted from their total environment. Perhaps this is one reason permission was given for their publication.

⁸Charles G. Seligman, *The Melanesians of British New Guinea*, Cambridge, Cambridge University Press, 1910, pp. 151–52

⁹For example, Murray Groves, “Dancing in Poreporena,” *Journal of the Royal Anthropological Institute of Great Britain and Ireland*, no. 84, 1954, pp. 75-90.

¹⁰Jürg Wassmann, *The Song to the Flying Fox: The Public and Esoteric Knowledge of the Important Men of Kandingei about Totemic Songs, Names and Knotted Cords (Middle Sepik, Papua New Guinea)* (Apwitihi, no. 2), translated by Dennis Q. Stephenson, Boroko, The National Research Institute, 1991.

Still, it should also be realised that in present-day Papua New Guinea, there is often also a very great need felt to record traditional music. Villagers are very well aware that change has progressed very quickly in Papua New Guinea and that for a variety of reasons, many young people are no longer learning traditional expressive behaviour as in the past. There is often a great feeling of pride that the sounds we are recording will be kept for the future. This is particularly in contrast to the cheap thrill the local radio station offers where traditional music may be played on air, but the recording will be discarded if a tape breaks or erased if there is no more blank tape available. This type of pride has become a very important motivation for the recording and documentation of traditional music.

Performances within the traditional setting (i.e., a village) will also be judged very differently from those in a foreign locale, e.g., in a town “show” or by students at their high school. One of the things we attempt to do in conducting our own field-work is obtain additional information about items already in our collection. About ten years ago, we visited an area among the Adzera speakers in Morobe Province. We routinely played an example of an Adzera song we had from our archive in an attempt to get some information about it. At first, the men listening to it, giggled at the performance, as there were numerous problems: there was only one person singing, instead of a group; the accompanying instrument was wrong; the singer got confused over some of the words, etc. When I mentioned that the recording was issued by the local teacher’s college so that teachers would have examples of traditional music, their attitude changed dramatically. They immediately identified the singer (he was the only young man from that region who had gone to that college), were proud that an example of Adzera music was appearing on a cassette which was to be distributed to all high schools in the country, and gently suggested that we record the corrected version for our archive.

A less cordial reaction took place when a well-known local band, known for its experimentation in combining traditional and popular music, publicly used secret paired flutes from Chimbu Province, in the Highlands of Papua New Guinea. A Chimbu student in the audience yelled at the band to stop debasing the tradition. Here the problem was not in the public use of the flutes (the performance took place in Port Moresby, far away from Chimbu), but that the performance was sloppy. Hence, the “right” to perform something publicly is intimately linked to the need to perform it correctly.

To give another example of the essential non-musical aspects needed to make a performance acceptable, we usually attempt to record the range of music in any community we visit and this frequently involves recording stringband music (i.e., with guitars and/or ukuleles), as well as, traditional music. One night we were recording stringband in the Upper Keram River area of East Sepik Province. As the songs were all in the local language we were unaware of the contents of most of them, we were to obtain such information on the following day. Suddenly, in the middle of one of the songs, a very angry man appeared and demanded that we destroy the cassette which we had recorded. As we eventually were able to learn, one of the songs concerned a piece of land the ownership of which was under dispute amongst various groups within the village. More emotional, however, was the fact that the man’s son had disappeared when he was walking through this land a few weeks ago and had not been seen further. Consequently, although there was no question of the “right” of the stringband to perform the song, other factors vastly overruled their right to perform it and even the right to preserve it on tape.

As part of our work in recording and documenting Papua New Guinea music, we frequently record traditional music in villages. We explain what our work involves, in particular about the importance of documenting such music in a quickly changing society and preserving such examples for future generations in our music archive. We discuss our written and recorded publications and our work with the education department in promoting the use of

traditional music. Any kind of restrictions can be placed on materials we record, according to the demands of the performers. Still, at present, other than restrictions of secrecy from the other sex or uninitiated youths, there has been little concern over our recording and future use of such materials. Perhaps this is because our recordings are only a small part of the total performance—there remains much which cannot be conventionally documented, so there is little concern about rights being lost. Hence, we never describe our work as “preserving” culture—true, we can preserve fragments, but not whole cultural entities.

I hope I have demonstrated to some extent that copyright or rights in relation to traditional music and dance in Papua New Guinea are extremely complicated: while ownership is not always unequivocal, there is almost always a sense of ownership for songs and dances; there are certain ways of transmitting the rights of performance, and, there are other ways of dealing with those who transgress these norms; the “right” to perform something is often tied up with the correctness of the performance in all its many referents, such as ability, appropriateness, etc.

Popular music. Copyright in relation to popular music is, certainly, much simpler, but still there are some issues of importance for consideration.

At present, Papua New Guinea is not a signatory to any international copyright agreement. For the most part, it can be argued that this situation has been beneficial to Papua New Guinea: popular overseas music cassettes are mass-produced locally, for local sales, at about half the price of an “official” version; a wide variety of video tapes are available, which otherwise would be unavailable here; materials can be readily copied for use in educational institutions, which would otherwise find it very difficult to pay official prices.

However, there have been at least two cases where these advantages were set aside and the lack of a copyright law was felt to be to Papua New Guinea’s detriment. In 1983, the Black Brothers, a rock band from Irian Jaya province of Indonesia which had lived in Papua New Guinea for about a year, apparently had somewhat of a hit song called “Yalikoë” on European charts. The song was, in fact, composed by a member of a well-known Papua New Guinea rock band Sanguma.¹¹ The composer very much felt that he had been ripped off and other musicians agreed, but there was little they could do. Up to this point Black Brothers had been quite a popular band in Papua New Guinea, but their popularity never quite recovered after this incident.

The second example concerns the largest producer of Papua New Guinea cassettes, Chin-H-Meen and Sons, which also has a number of stores around the country specialising in electronic items. In addition to producing Papua New Guinea cassettes, they also sell their pirated copies of overseas cassettes. In early 1989, some small stores around the country began selling pirated versions of Chin-H-Meen local cassettes. Again there was tremendous outrage over this.

Within the country, there is presently extensive use amongst rock bands and stringbands of songs composed by other bands. Sometimes there is an acknowledgment of the original composers on cassette inserts, more often there is not. Such an omission, however, is not necessarily negligence or oversight—often it may be very difficult to determine the composer

¹¹Harlyne Joku, “Black Brothers Stole Our Yalikoë—Sanguma,” *Niugini Nius*, 11 March 1983, p. 3; Bitali Tauwala, “Copyright,” in *The Urban Music Situation in Papua New Guinea from 1977 to 1984*, ed. Sandra Krempf-Pereira, [Waigani], National Arts School, 1984, p. 55; Don Niles, *Commercial Recordings of Papua New Guinea Music; 1988 Supplement*, Boroko, National Research Institute, 1991, pp. 5–6.

of a song. While it is generally felt to be a good thing for a band to obtain at least verbal permission from the composer before using a song, this is probably quite rarely done.

Bitali Tauwala, the only Papua New Guinea musician to write about the issue of copyright, calls for the establishment of a "domestic copyright law" whereby "an author would license a local publisher for the rights to produce the material in the country."¹² The author could also then license a publisher overseas to produce the work in another country. Tauwala feels that domestic copyright would "encourage professionalism among the many aspiring musicians and other authors."¹³

Television was only been introduced in Papua New Guinea in 1987. To date, it has had little effect on the issue of copyright, but a Copyright Committee has recently been established by the government to look into the subject.¹⁴

Perhaps now we can re-visit the two incidents mentioned at the beginning of my paper. Both cases concern the confrontation of traditional Papua New Guinea rights and international interests. Yet, even here, the cases are not as simple as they might appear. Problems arose in the case of the book and film documentation of a certain dance because it was felt that the rights of the owners were infringed by displaying scenes not meant for public viewing. In this case, the authority stopping the distribution of the book and film was the Papua New Guinea National Museum and Art Gallery. They were familiar with some of the objects displayed in the film and book because of previous research undertaken in the same village. The Museum felt it better to take a conservative stand on the side of the tradition and ban the distribution of the offending materials. They are now attempting to act as mediators in a meeting between the author, the villagers, and appropriate government officials. The outcome could have extreme importance for the future publication of sacred materials. Yet should such a government body assume the role of watchdog for such offences? If local permission was obtained for the production of the film and book, does the Museum have any right to question the present situation?

In the second example cited at the beginning of my paper, the researchers went out of their way from the beginning to ensure that the materials would not be viewed in Papua New Guinea without the approval of the people concerned. Yet, the same materials could be used overseas without any special permission being sought. So, an overseas audience had access to Papua New Guinea material, which is inaccessible within the country concerned! Now, with the return of copies of these materials to the people concerned, they will have the authority to determine access. Yet, still, they do not have the sole copy and the details of exactly how things will work out have not been determined. Obviously, though, the return of these recordings is a noble gesture and one which is all too seldom followed by others.

Traditionally, the mechanisms for the acquisition of performance rights are quite clear, even though they may vary throughout the country. However, the confrontation with national and

¹²Bitali Tauwala, "Copyright," in *The Urban Music Situation in Papua New Guinea from 1977 to 1984*, ed. Sandra Krempf-Pereira, [Waigani], National Arts School, 1984, p. 54. For additional copyright considerations, see Jacob Simet, *The Future of the Tubuan Society* (Discussion Paper, no. 24), Port Moresby, Institute of Papua New Guinea Studies, 1977.

¹³Bitali Tauwala, "Copyright," in *The Urban Music Situation in Papua New Guinea from 1977 to 1984*, ed. Sandra Krempf-Pereira, [Waigani], National Arts School, 1984, p. 55.

¹⁴Also see Paul Avei, "Copyright law issue gets mixed reaction," *Post-Courier*, 13 January 1989, p. 3.

international concerns necessitates a thorough understanding of traditional practices so that guidance can be sought for considering these issues.

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UNESCO REPORT: LEGAL QUESTIONS FACING AUDIOVISUAL ARCHIVES

Sven Allerstrand, ALB, Stockholm

Presented to the Copyright Committee Open Session at the IASA/ASDA Conference, Canberra, 1992

"Legal questions facing audiovisual archives" is the name of a report published last year by UNESCO. The author, Birgit Kofler, is a lawyer with little experience of our profession, but she has worked closely with representatives of the Non-governmental Organisations (NGO's) within this field.

My intention is not to give a critical review but just a brief presentation to make you aware of the fact that this report exists and is available.

The main part of the report consists of guidelines for national legislation and a model for the legal and organisational framework that is needed for a systematic preservation of the audiovisual part of a nation's cultural heritage.

Definitions

After a preamble, the guidelines start with some definitions. I will mention only a few that could be of general interest.

Moving Image and Recorded Sound Heritage

According to the guidelines the moving image and recorded sound heritage of the country shall include, but not be limited to, the following:

- (a) Recorded sound, film, television or other productions comprising moving images and/or recorded sound created or released within the country and/or with any other relevance to the country, whether or not primarily intended for public release.
- (b) Objects, materials, works and intangibles relating to moving image and recorded sound media, whether seen from a technical, industrial, cultural, historical or other viewpoint; this shall include material relating to the country's film, television, broadcasting and sound recording industries such as literature, scripts, posters, advertising materials and artifacts such as technical equipment and costumes.
- (c) It also includes such concepts as the perpetuation of obsolescent skills and environments associated with the presentation and reproduction of these media documents.

Audiovisual materials are to be understood as:

- (i) visual recordings (with or without soundtrack) irrespective of their physical base and recording process used, such as films, filmstrips, microfilms, slides, magnetic tapes, kinescopes, videograms (videotapes, videodiscs), optically readable laser discs;
 - (a) intended for public reception either by television or by means of projection on screens or by any other means;
 - (b) intended to be made available to the public.

(ii) sound recordings irrespective of their physical base and the recording process used, such as magnetic tapes, discs, soundtracks or audiovisual recordings, optically readable laser discs;

(a) intended for public reception by means of broadcasting or any other means;

(b) intended to be made available to the public.

All these materials are cultural materials. As you can see, the definition of audiovisual material is intended to cover a maximum of forms and formats, trying to leave it open for further technical developments.

General principles

Under general principles, Kofler states that:

- The national cultural heritage of the country shall include all its creative expressions in audiovisual form.

- It is the leading objective of the legislation to provide for adequate preservation of the moving image and recorded sound heritage of the country.

The general principles emphasises the fact that the audiovisual material should be considered part of the *cultural heritage* of a country and that this should be systematically collected, documented, and preserved.

The guidelines also include recommendations regarding the organisational structure of AV-archives. A Designated Archives for Audiovisual Material, responsible for the safeguarding and use of the AV-material shall be established. In many countries several institutions hold important audiovisual collections without being officially recognised archives. Kofler means that the patrimonial task of audiovisual archives can only be guaranteed by a neutral and officially recognised administration, but such an administration could consist of one centralised institution or of separate institutions.

The audiovisual archives are understood to be centres to safeguard the audiovisual heritage of a nation and to render it accessible for research, education and other purposes to be defined. They should be seen as neutral, officially recognised preservation institutions equal in cultural importance to national libraries, national museums and national archives and not as mere suppliers of services to TV or broadcast stations or to film production studios.

For the control of the affairs and the formulation and review of policies there shall be established a Council of the Designated Archives for Audiovisual Material. Of course this is especially important if the AV-archives consist of several independent institutions.

Acquisition

The designated archives for audiovisual materials shall receive legal deposit on the following material:

(a) Moving images of national production, whatever the physical characteristics of their support medium or the purpose for which they were created, should be deposited in one complete copy of the highest archival quality.

(b) Every other visual recording distributed or sold in the country shall be deposited in the form of an unused copy.

(c) All sound recordings produced in or imported to the country shall be deposited in the form of two unused copies.

(d) The programmes that are broadcast in the country by radio, television, cable or satellite shall be deposited upon request of the Archives.

As you can see, again this is very comprehensive. Kofler tries to include the whole field of audiovisual materials into a legal deposit system. There are, however, some exceptions. The following materials shall not be subject to legal deposit:

- (a) AV-materials that are required to be sent to the National Archives as public records;
- (b) AV-materials that have not been broadcast or made public in the country, especially material that has been produced by individuals for their private use;
- (c) Any recording could be exempted from the application of the law by such regulations as the Minister may make for that purpose, especially for reasons of national security or privacy;
- (d) Furthermore, the obligation shall not apply if the Archives have refused in writing to accept material.

The model law also prescribes that the deposit of the material has to be accompanied by a declaration containing relevant complementary information.

One of the reasons why this is suggested is that it is useful, not only for cataloguing purposes, but also for the archives to be able to constitute a minimum legal data list on the rights residing in the item. In principle, no material should be denied and no selection should be made. For considerations of costs and space, however, there might be some exceptions to this general principle and some form of selection process could be established until new techniques permit the preservation of all material having been deposited.

If it is not possible to give equal attention to all aspects of the audiovisual heritage, priority is given to items:

- a) made in or about the country
- b) made by or with the participation of nationals of the country
- c) manufactured in the country
- d) of relevance to the country

Preservation

In general, works shall be preserved in their original and complete form, i.e. in the form in which they have been released to the public or regarded as complete by their creator, with their content intact.

The archives are allowed to make a reproduction for the purposes of preservation, for the purpose of security and for the purpose of replacement of damaged records, without thereby infringing copyright protection. AV-material published in the country shall not be destroyed before its owner has offered it to the archives and the archives have refused to accept it.

Reproduction and access

The archives may make one access copy of the material and have the possibility of repeating this process if necessary, so that in addition to the archived copy one access copy of good quality is available at all times.

According to the guidelines, access to the collections of the AV-archives is considered to be both a public right and a need. Consistent with this principle, the archives shall provide access to all who seek it, as freely and equitably as practicable. Access should not, though, prejudice either the legitimate rights or the interests of copyright proprietors, depositors or cooperating institutions.

The use permitted to AV-archives shall be the exhibition and/or projection of sequences for educational and research purposes and other single, non-commercial purposes as specified by the Council, without an entrance fee and only when the sequences have been commercially exploited at least once, or, in the case of television recordings, televised by the organisation which produced them.

For the same purposes the archive may loan lawfully made reproductions of access copies to universities, public and private cultural organisations, public and private educational institutions, and to institutes of culture abroad.

Kofler presupposes that a special decree regulating the application shall specify the nature of the relations between the archives and educational and other institutions of a similar nature and their access to the collections for educational or cultural purposes.

Access to the material shall not be provided where this would compromise preservation requirements; the long-term survival of the collection shall not be put at risk to meet short-term needs.

Conclusions

From my perspective as a national AV-archivist, these guidelines are of great importance for at least three reasons:

1. It states very clearly that the audiovisual materials- records, radio, film, and television- are worth preserving to the same extent as printed publications. Kofler repeats many times that AV-material is an important part of the cultural heritage.
2. It recognises the profession of *AV archiving*. As mentioned earlier, the designated audiovisual archives should be "equal in cultural importance to national libraries, national museums and national archives." They should not be part of any of these institutions. As we all know, there is no internationally approved model for a standard structure of AV-archives. Kofler is of the opinion, and I certainly agree, that discussions on organisation and structure should, as far as possible, include management for film, video and recorded sound collections, which would help to apply uniform principles to preservation, restoration, cataloguing and documentation."
3. The general principle that access to the audiovisual collections should be considered as a public right and need is emphasised. Of course, we should not infringe copyright to the owners of that copyright. But with this principle as a basis we could start a discussion with the copyright organisations in order to get special provisions for a reasonable use for our materials.

The fact that the report is published by an internationally recognised organisation as UNESCO makes it an excellent instrument which we can use in our efforts to get funding and understanding for our work.

Finally, in the perspective of an increasing market for AV-media, it will be very difficult for any country to preserve every published AV-recording, regardless of origin, as the guidelines suggest. The comprehensive preservation scheme will today lead to unreasonably costs. A shared responsibility, which means that every nation will take care of the long term preservation and documentation of its national production will be the solution. A network of designated audiovisual archives with a system for international loans should be established, just as there is a network for national libraries. I think that this report could be a good basis for discussion within IASA and the other NGO's on what steps we need to take to come to this ideal situation.

Note: The citation for the Kofler Report and information on where to order it is included in the special list of publications of interest at the back of this issue.



CATALOGUING

VIDEO IN SPAIN: SPANISH NATIONAL BIBLIOGRAPHY OF VIDEO RECORDINGS

Maria Pilar Gallego, Biblioteca Nacional, Madrid

Presented in the Cataloguing Committee Open Session at the IASA/ASRA Conference, Canberra, 28 September, 1992

The first title for this talk that Mary Miliano suggested to me in Sopron was "Spanish National Bibliography of video recordings, 1981-1987." Later on, I thought you would like to know about the development of documentary, economic and social features of the document which is overflowing in our centres: the videogram.

As well as in other countries, the origins of art video in Spain are closely related to television and the evolution of contemporary art in the 1960's-70's.

During the 1970's many art video exhibitions were held, mainly in Madrid and Barcelona, but video became more important in the early 1980's due to the opening of the first schools, the establishment of domestic video firms, and the acknowledgement of video in the international festivals of cinema, such as San Sebastian in 1982-1984 and the first National Festival of Video organised by the Comunidad de Madrid in June, 1984. This year when the consolidation of these festivals takes place, shall be the year in which a bigger number of titles will be published.

The first firm that marketed domestic videos in Spain was Videoespaña in 1981; many successful motion pictures, documentary films, cartoons and videoclips could be found in its catalogue. The spectacular sales in the first months were followed by a restrictive policy regarding the number of titles available. This fact, together with the entry of the multinational companies into the Spanish market made Videoespaña disappear in 1986.

In the period 1981 to 1983, some pirate distributors appeared, who published foreign motion pictures without permission. At the end of 1983, the great multinational distributors decided to enter the business of video recordings, so they promoted the anti-pirate federation which fought against illegal competition. These multinational companies obtained the collaboration of the public Administration and as a result, the Department of Culture dictated the Act of 1984 that regulates the indelible stamp that all of the videograms destined for selling or public exhibition must carry.

In early 1984 only 9 out of the 190 distributors were foreign, distributing 10.5% of the titles, but in 1986 the great Anglo-American distributors, who distributed their own productions, got ahead in the video business. As a consequence, the most important Spanish firms had to turn to the new international market to supply new materials, and they came to an agreement with some new multinational companies that did not operate in Spain.

This first period, 1981-1983, is characterised both by the great number of motion pictures and by the didactical video, which was encouraged by the public institutions. The Generalitat of Catalunya was the first institution that introduced videos into education, starting in October, 1982. Galicia also introduced videos in teaching by means of the plan "Imaxe na escola." They developed the program, "Preescolar na casa", an idea raised by a group of teachers to help with the instruction of small children in Galicia.

The army also organised the use of audiovisual materials, both in the training of soldiers and in their professional teaching.

The Open University (UNED) co-ordinated the first video courses for teachers in 1982.

Finally, in this first period, many music videos were released in the same way as some companies do to promote their artists.

A second period, from 1989 on, may be characterised by the important role played by the autonomous governments and the central Administration in the publication of video recordings.

As the production of new motion pictures decreased, the number of organisations that show their activities using videos increased. Examples are the National Centre for Special Education, the Institute for Women, the Department of Agriculture, Fishing, and Alimentation, the department of culture, Turespaña, Spanish Television's Program for Education, and so on. Also, the production of documentary videos became more important, such as publishers that make only videos about towns and their museums; a publisher who only deals with the art of bull fighting; or autonomous regions that want to show their folklore, gastronomy, and tourist resorts. As an example, the Community of Murcia produced more than 30 videos showing its art, industries, and feasts for the Universal Exhibition in Sevilla.

In short, we can say that nowadays production of motion pictures is controlled by multinational companies, but production in Spain is mainly supported by the public Administration.

Types of videos and their evolution

The following statistics have been compiled from the videos which have been received into the National Library by Legal Deposit. We must bear in mind the fact that the first two years are not representative because publishers were not aware of the law at that time.

TABLE I

	1981	1982	1983	1984	1985	1986	1987	1991
Motion pictures	6		1016				1202	554
Documentaries	4		25				154	365
Didactic videos	2		36				94	360
Musical videos	8		22				11	32
Sports	2		8				9	90
Shows and performances	1		1				10	13
Serials	2		1				-	2
Publicity	-	2					-	26
TOTAL	21	53	1111	2767	1792	1494	1480	1442

TABLE 2 Percentages (%)

	1983	1987	1991
Motion pictures	91'44	81'21	38'41
Documentaries	2'25	10'40	25'31
Didactic videos	3'24	6'35	24'96
Musical videos	1'98	0'74	2'21
Sports	0'72	0'60	6'24
Shows and performances	0'09	0'67	0'90
Serials	0'09	-	0'13
Publicity	0'18	-	1'80

If we study the table carefully, we will notice that total quantities of production of videos are very similar since 1986, and only in 1984 (the year when the multinational companies set up) is the growth spectacular.

As far as the type of production, we can see that in the first few years there are clearly more motion pictures being produced; in 1983 it is more than 90% of the entire production, but it decreases slightly in 1987 and in 1991 was only 38%. However, the documentary and didactic videos increase from 2'25% to 25'31% in the case of documentary films and from 3'24% to 24'96% in the case of didactic video.

The growing importance of documentary film is due to the important production sponsored by public administrations. Many of these videos deal with folk culture, such as Easter, Moorish and Christian feasts, and many times they are made by amateurs.

The musical video production must take into account that many of them, such as operas and recitals, are imported. There is no Legal Deposit for these videos because the law specifies it only for documents made in Spain and not for those which are sold.

Sports videos have gained great importance. There are distributors that publish sports videos exclusively. We expect a bigger growth in this field because of the Olympic Games celebrated in Barcelona.

Video recording shows and theatrical performances have also increased, but in a moderate way.

Since the beginning there have been some attempts to publish serials in videograms, but they have not lasted for long. On the other hand, scientific publications issued by universities are more lasting, but they do not appear periodically.

Finally, publicity has found in video a new system of diffusion: the selling of apartments, campaigns about the use of olive oil, or the way of avoiding "zapping" to escape publicity, are what most people call "videoselling."

We can say that the use of video has diversified; in the beginning they were used almost exclusively for leisure, but now they have become useful in documenting everyday life.

Video Cataloguing Rules

The cataloguing rules for special materials were first edited in 1984 by a commission made up of specialists from the National Library of Spain. The cataloguing rules were edited taking into account the ISBD (NBM) issue 1977, the AACR2, issue 1978, and the "Recueil

de normes françaises de documentation", issue 1980, together with the bases of our cataloguing rules.

As in every code, the rules are clear but there are not rules for every possible need. The cataloguing of about 10,000 videos has allowed us to establish "de facto" some useful rules which develop Chapter 18 of the cataloguing rules.

In 1984 we began to catalogue the videos that were covered by Legal Deposit in 1981, even though the cataloguing rules were not yet finished. The rules for non-book materials were finished and published in 1988. By that time we had catalogued about 3000 videos, and this experience made us think about some points that we had to change in order to come up with a reliable description.

Our cataloguing rules have, as a main source of information, the title and end frames and secondly, the affixed label, the container, and the accompanying material; that is, all material that constitutes the publication as a whole when it is published.

Before 1988, we had made the description taking into account only the information given in the label and the container (visible information). This made us begin to revise our cataloguing, having as a main source of information the film itself. The projection of the tape is useful to verify the written information for films with a changed title, with spelling mistakes, or for a deficient recording. I shall enumerate the differences that we have introduced into our code.

Title proper and statements of responsibility

Title proper

In the cases of a title with two or more languages, we choose as the title proper the Spanish title if the film is dubbed. Sometimes the title is not written in the film, and it is only mentioned by an announcement while the original title is displayed on the screen; however, this title generally appears on the label and on the container. We consider the original title, in this case, as a parallel one.

Statements of responsibility

Our cataloguing rules state: "The names of the people or entities in the main source of information considered of main importance in the production or for the cataloguing centre will be stated." With this rule we have decided to include the people or entities that have had the intellectual or artistic responsibility apart from the production company, provided that the responsibility is not financial alone.

According to the type of video recordings we choose the statements of responsibility as follows:

a) In motion pictures, the name of the director, the author of the script, the screenplayer, the director of photography and the author of the musical score, if it is original. Also, we include the names of people or bodies who have created special characters or have created special effects; for animated cartoons, the animator and the people who have created the drawings. Generally, we mention the director first and then the others in the sequence of the film. By this practice we differ from AACR2 and ISBD(NBM), issue 1987, and we are closer to the French cataloguing rules.

b) In documentary and didactic video recordings we choose the director, the writer, and in documentary films, the director of photography, the film editor and the camera man as the people in charge. However, instead of the ones mentioned above, there is a person or body who has the intellectual responsibility in the case of serials- the director.

The last indication as to statement of responsibility is the cast; we give no more than 3 performers in motion pictures and musical videos, and we record the names of presenters or speakers in documentary or didactic videos.

After these notes belonging to area 1 we state those belonging to the rest of the areas, if necessary.

The Department of Culture requires the publisher to get a certificate of qualification for all audiovisual items for sale, distributed, or for public exhibition. This requirement must be marked on the label and in the container. Therefore, we must always give an indication of the targetted audience level. Afterwards we record the contents, if necessary.

The last note is the number assigned to Legal Deposit which is always placed before the letters D.L. and the sigla of the province.

In area 8, we indicate the original production company and every identification number or symbol that the document bears in order to help with its diffusion.

As a general rule, we put the title as the main entry heading, since the film is a work consisting of the collaboration of a group of people. We add other entries for all of the collaborators and performers names in the description. We also make author-title and added entry for the work upon which the film is based.

We have never made a summary. For documentary and didactic videos, we give subject heading without any other type of classification. We are planning to give subject headings for historical or documentary motion pictures.

The video recordings in the National Library

The Legal Deposit Act of 1982 states, in article 2:

"Legal deposit will be applied to all types of writing, images, and musical compositions reproduced in multiple copies, made with a chemical process for its diffusion." This is the first time that Spanish law establishes the rules of Legal Deposit to extend to non-book materials.

The Legal Deposit Acts of 1957 and 1971 confirm the legislators' wishes that the National Library must hold at least one copy of every work produced in Spain.

Along with the producer's obligation to deposit the published material comes the Administration's obligation to catalogue and to make these documents available to the users. That is the reason why there is now a National Bibliography of Video Recordings.

Nowadays there are 9600 bibliographic descriptions in languages readable by computers from the year 1981-1987. We are working now with the remaining materials and expect to put it on-line next year.

We have catalogued all types of videos that come into the National Library without regard to their higher or lower cultural content. Now we have more than 20,000 units. The service to

the public is restricted to researchers requiring use of the documents until the new facilities are ready.

The Library does not provide copies because the Copyright Act of 1987 states that no one can stop the reproduction of their work by libraries and public archives for the purpose of investigation, but the owners of the rights are entitled to receive remuneration through government bodies for their rights. The Library is now creating agreements with these government bodies in order to pay the proper fees to the owners of these rights.

Hopefully this article has introduced you to the handling of video material in Spain.

IASA/IAML Conference

Helsinki 8-13 August, 1993



RECENT DEVELOPMENTS IN DECOMPOSITION AND PRESERVATION OF MAGNETIC TAPE

Ian Gilmour and Viktor Fumic, NFSA, Canberra

Presented in the Technical Committee Open Session, IASA/ASRA Conference, Canberra, 1992

Sound Archives typically rely on 1/4" analogue tape as a preservation medium, but many recent tape formulations have proven to have much shorter lifespans than expected, with some failing much sooner than typical varieties from 30 or 40 years ago. Tape composition, mechanisms of decomposition, analysis and restoration are outlined, along with implications and strategies for preservation. Detailed discussion focusses on the success of acid and soluble content measurements, and low humidity rejuvenation of tapes with hydrolysed binders.

Introduction -Tape Construction

Apart from very early homogeneous types, most tapes consist of 3 primary components: the base, magnetic particles or pigment, and binder. The earliest commercial formulations used cellulose acetate as a support or base film, as well as a binder for coated and homogeneous tapes. Poly(vinyl-chloride) or PVC has also been used since 1940,¹ but both have been superseded in modern tapes by poly(ethylene-terephthalate) or PET, which has superior physical, hygroscopic and thermal properties. Under commonly encountered conditions of storage and use, it is one of the most chemically stable polymers available². Problems with physical deformation can occur through mis-handling or improper collection management, but with care these are normally of secondary concern.

Most modern tapes incorporate a back-coating of carbon particles to reduce static electricity which can discharge and attract dust. Pigmentation was first introduced in the late 1940s to distinguish the reverse side of the tape from the playing surface. From the 1950s as tape surfaces became smoother, matt back-coating was introduced to reduce air entrapment and to avoid slippage between layers or displacement of loose turns (ribbing or leafing) during spooling and in subsequent handling and storage¹.

Binders

Of the 3 main components in modern formulations, the binder system is considered to be the weakest. IASA's own literature over the last two decades has addressed a wide range of issues from print-through, stray magnetic fields, and even detailed arguments about period playback equipment, without ever having focussed on binders. Could it be that this is a purely antipodean issue? Recent industry articles in both the U.S.A. and the U.K. seem to suggest otherwise^{3,4}.

The binder probably has the toughest job of the 3 primary components. It has to perform several roles simultaneously:

Adhesion - it must hold the magnetic particles (or back-coat) onto the substrate;

Cohesion - it must hold the magnetic particles or back-coat together in a tough, wear-resistant layer of uniform dispersion, with each particle thoroughly coated, but without itself occupying excessive volume so as to reduce the density and therefore, signal carrying capacity of the tape:

Flexibility - to withstand successive bending and straightening from spooling/ unspooling and curving around the heads and guides of the tape transport.

Runability - it must allow the passage of tape through the transport with minimum friction and mechanical interference - flapping around, 'stiction' or other irregularities which can cause flutter, modulation noise and related problems.

The two main families of binders in current use are polyester-urethanes (PE-U) and (PVC). Examples of PVC include drainpipe, shoe soles, and LP records which are believed to be able to last for a century or more. PE-U's are used in such demanding applications as motor vehicle suspension bushes, casting or moulding of precision mechanical and electrical components, skateboard/roller-blade tyres, and some of the toughest, most chemical resistant lacquers and finishes ever invented. Whilst neither is clearly superior, their success as tape binders depends on adherence to strict manufacturing tolerances, and on the exact composition, which can incorporate a host of additional ingredients such as lubricants, plasticisers, stabilisers, fungal inhibitors, anti-foaming agents, dispersants and the like.

Polyvinyl chloride

A slightly different form of PVC to that used in substrates is favoured by European manufacturers as a binder, despite a slight tendency to shed oxide even when new. (Fig. 1)

PVC typically breaks down by losing hydrogen and chlorine molecules which can produce hydrochloric acid (HCl) and leave double carbon bonds. (Fig. 2)

Unlike the relatively rigid vinyl discs which incorporate a proportionally far smaller load of pigment as well as stabilisers to prevent decomposition, tapes typically incorporate 40% or more by volume of magnetic particles or pigment along with the binders themselves.

Polyester-urethanes

Polyesters are formed by reacting carboxylic acid and an alcohol to produce esters and water. This esterification reaction is reversible by a process of hydrolysis, in which water and esters are consumed, whilst acid and alcohol are produced. Being a reversible reaction, it is an equilibrium equation; in the presence of a certain moisture concentration, i.e. airborne humidity, polyesters will evolve or consume water from the surroundings until an equilibrium is reached.

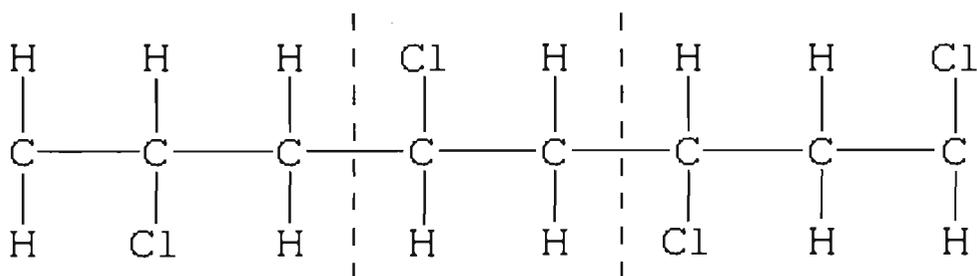


Fig. 1: PVC Molecule

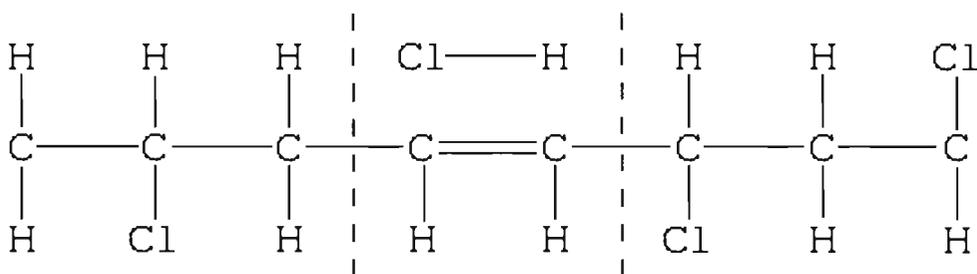


Fig. 2: Dehydrohalogenation of PVC

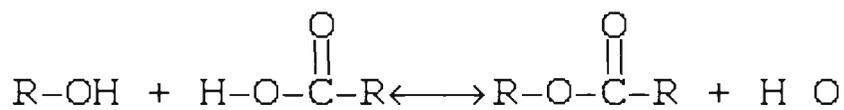


Fig. 3: Esterification/hydrolysis reaction

The PE-U in tape binders are typically cross-linked co-polymers. The chains are arranged in lattice-shaped structures joined by ester linkages. These aliphatic esters which number roughly 5 or 10 times as many as the polyurethanes are much more prone to hydrolyse than the PET substrate⁵.

Measurement of Decomposition

Two main approaches are of interest to archivists:

Physical means, such as optical characteristics, viscometry, adhesion, cohesion/shedding, buildup of sticky residue of heads and guides;

Chemical analysis, inc chromatography, infra-red or mass spectra, nuclear magnetic resonance (NMR), solvent extraction, and pH determination.

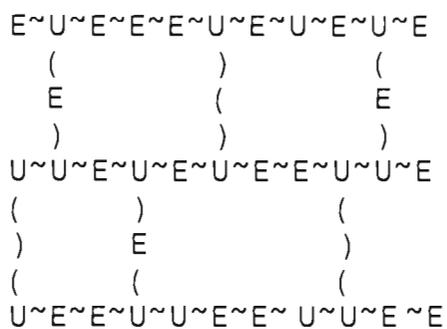
The main drawback with relying on visible indications of decomposition or physical symptoms evident during playback or spooling, is that they often don't show up until it is too late - once binder failure has occurred. Despite this fact, it is still too often the primary or only means of detecting binder decomposition. Indeed manufacturers still advise clients that this is the simplest and most reliable means of determining the state of tape collections⁶. Certainly it is the ability of magnetic tapes to retain their physical integrity for running on a tape transport to reproduce a faithful signal which is of ultimate concern.

Chemical condition and quantitative measurement of binder condition are of more than just academic interest, however; they serve as an early warning of problems which are building up, and allow time for planning and implementing the task of treating and dubbing original or historical tapes, particularly when work on large collections must be prioritised. In conjunction with accelerated aging, stability testing is an important means of selecting formulations for recording and acquiring new material, as well as dubbing the sonic content of older, unstable carriers.

Of all the available options, solvent extraction (SE) and pH are of particular interest, and have been used in recent years at the NFSA. Spectral analysis and chromatography are powerful tools for those fortunate enough to have the facility, although results often need careful interpretation. They can be useful for initially testing new or unknown formulations to help in analysing the different constituents. Binders in the 1970s have failed prematurely due to the inclusion of low- as well as high- molecular weight polymers, despite an apparently acceptable average molecular weight. Manufacturers have cited more accurate analysis of the spectrum of molecular weights in quality control of raw materials as a means of improving stability of binder formulations^{7,8}. SE and pH measurement can be routinely implemented more readily with simpler equipment and less skilled personnel provided that they are adequately trained.

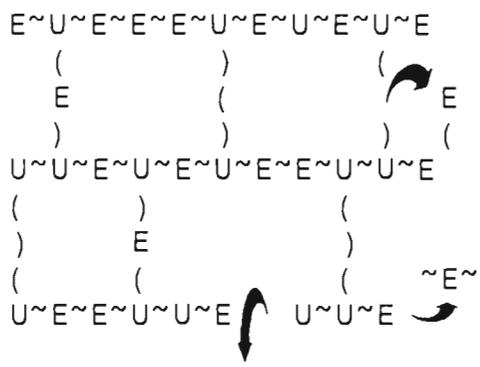
Solvent Extraction

As PE-U binders degrade, scission of ester linkages occurs by hydrolysis, the polymer chains become shorter and the binder is said to lose molecular weight. A characteristic of such lower molecular weight polymers are that they become gummy or sticky rather than retaining their strength and integrity as an elastomer. Whereas the properly cross-linked binders are largely insoluble, the lower molecular weight residue will literally wash away in solvents such as acetone and methyl ethyl ketone (MEK) [fig.4]. A technique put forward by Cuddihy⁹ in 1980 was to weigh a sample of tape before soaking in solvent and dissolving out the low molecular weight binder residue, then re-weighing the sample to determine by difference (percentage w/w) the amount of broken down residue lost in the process of extraction.



U = Urethane

Fig. 4a: Crosslinked polyester urethane



E = Ester

$\sim E \sim$

Fig. 4b: Hydrolysed polyester urethane
Shorter chains weaker and more soluble

Since a PE-U tape in good condition has only a small percentage of solvent-extractable residue, typically 0.5-1%, whilst sticky unplayable tapes are often closer to 4 or 5%, it is possible to obtain a rough indication of binder condition even without a reference level for a particular formulation. Similarly an artificially aged tape showing an increase of more than a few percent extractables is inclined to instability, particularly when one accounts for the nature of additives such as plasticisers and fatty-acid lubricants. If a collection of tapes is properly monitored, with periodic measurements taken and records kept (along with control samples) from when new or prerecorded tapes first enter the Archive, a pattern of understanding may be developed which can serve as a basis for treating and dubbing material before it reaches a critical state. With experience, SE then can be correlated to playability for tapes of a given age and formulation.

Our own test method consists of weighing then immersing 50-100mm long samples in glass vials containing 20-50ml HPLC-grade acetone. After removal from the solvent and drying in air, final weight is used to calculate percentage weight loss. Initial readings over logarithmic time intervals indicated that 20-30 minute immersion followed by 1-5 minutes drying time was sufficient to give stable, repeatable measurements [fig 5].

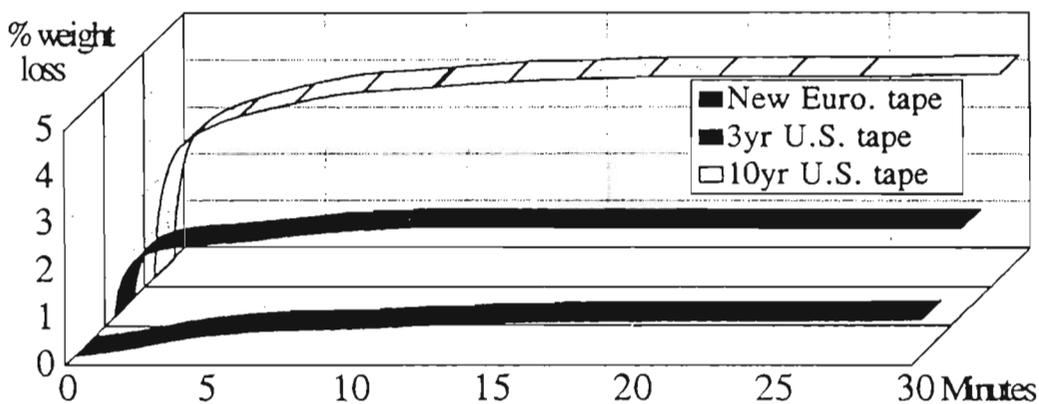


Fig. 5: Weight loss of samples agitated in acetone @ room temp.

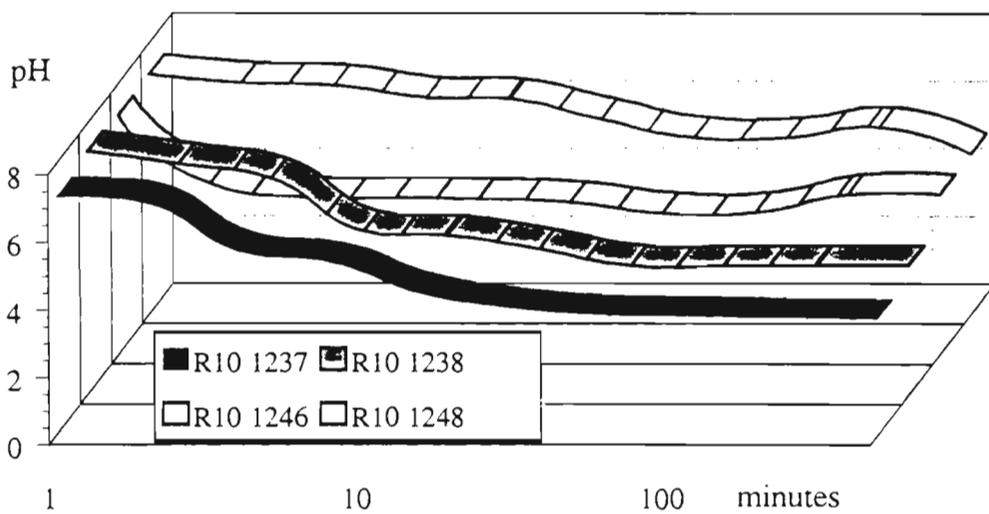


Fig. 6: Initial pH over time of finely chopped samples in H₂O @ room Temp

Care and skill is required for solvent extractions on fragile tapes including those with PVC binders, which lose oxide and/or backcoat in the process. Techniques for filtration and evaporation can be used to avoid the apparent variation which has confused some attempts at such analysis. A team at the U.S. National Bureau of Standards produced similarly variable results by using tetrahydrofuran (THF) which dissolves stable, high molecular weight polymers rather than acetone-soluble residue alone⁵.

pH Determination

An alternative process is used to complement and verify results of solvent extractions and provide added indications of PVC binder condition. As previously explained, dehydrohalogenation of PVC produces HCl, whilst hydrolysis of PE-U produces carboxylic acids. Acids are normally measured on an inverse logarithmic scale of H⁺ ion concentration simply called pH. A technique commonly used for testing film supports¹⁰ involves soaking finely chopped tape samples in distilled H₂O, then measuring pH. In our initial trials we arrived at a H₂O:tape ratio of 10:1 w/w, over an immersion time of 2 hours with constant agitation [fig. 6].

Accelerated Aging

Most archives will be involved in recording and/or dubbing older unstable material onto newer, more stable media to preserve the sonic content. It is important to determine at least the *relative* stability of the formulations available so as to optimise the chances of dubbed material surviving. In order to ascertain the applicability of these methods of analysis for assessment of stability, we regularly study performance of current mastering tapes exposed to high humidity. Whilst a range of conditions are used in accelerated aging, including cycling between low and high humidities and temperatures, we were particularly interested in how tapes performed at high temperature and humidity, and whether this would increase the rate of chemical decomposition. In a recent test over 31 days at 60°C and 90% relative humidity (R.H.), seven popular tapes all showed a greater tendency to shed and an increase in SE [fig 7].

In order to provide repeatable measurements of shedding or binder cohesion, a test jig has been built which rubs a sample of tape held at 500g tension on a 1cm cylindrical swab rotating at 300rpm. The swab is wetted by isopropanol and slowly fed across the tape to avoid clogging. The time to rub completely through the oxide layer is noted. The processes of accelerated aging and analysis by these methods are believed to approximate, rather than completely model actual tape behaviour, although the high degree of repeatability and strong correlation between test results and actual performance has been found to provide a good basis for comparison of different formulations.

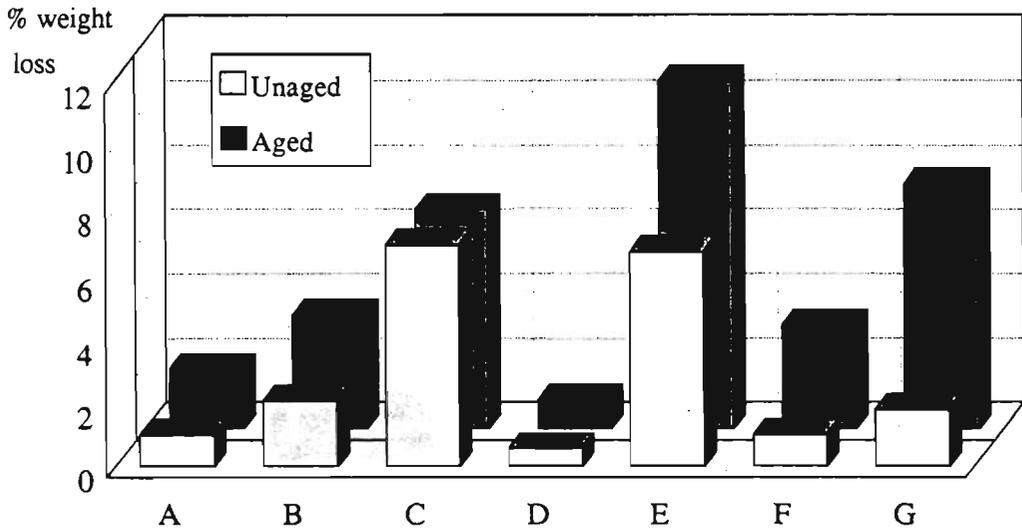


Fig 7: Solvent extractions of tapes artificially aged 31 days, 60°C, >90% rh.

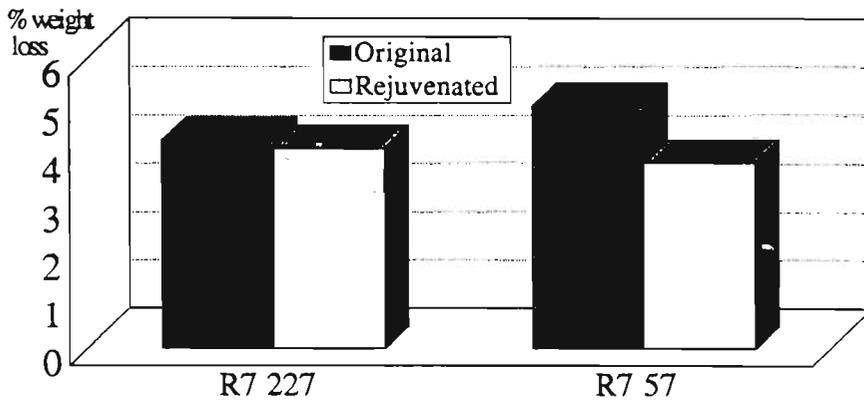


Fig. 8: Solvent extractions of tapes rejuvenated by two methods -
 R7 227: dessicator @ room temp 8 mths; R7 57: 30°C & <10% rh, 3 wks.

Conditions for Storage and Treatment

Given the destructive role of airborne moisture in the decomposition of polymers used in magnetic tapes, the theoretical possibility of reversing the reaction, and the need to recover information from degraded tapes, investigations were conducted into low humidity rejuvenation. The first goal was to at least restore tapes to a playable condition so that they could be dubbed. The increasingly popular industry practise of 'baking' tapes at up to 60°C was included in our study. An absolute ceiling is indicated by the glass transition temperature (T_g) for PET of around 70°C. It is quite possible that changes in crystallinity or chain mobility may occur at even moderately elevated temperatures, hence it is advisable to use caution when treating tapes in this manner.

Initial trials were conducted on expendable tape samples of various ages up to 12 years, some of which were already showing signs of hydrolysis - squealing, shedding gummy deposits, and SE of 4-5%. Musical and spoken-word programs and test tones were used to measure side effects such as print-through and scrape-flutter. Whilst some tapes recovered to a playable condition after 24 hours at 55°C and ambient humidity (air at 50% R.H at 22°C drops to less than 10% when heated to 55°C), the recovery only lasted for a few weeks or months, and side effects such as print-through and packing damage occurred.

In order to try a more cautious method, a squeaky, shedding 7" original tape from the collection with SE of 4.3% was placed in a partially evacuated glass desiccator charged with barium oxide over a period of 8 months at room temperature (22°C). The tape recovered from a state of squealing after a few minutes of playback with moderate shedding, to a point of playing from end to end (30 minutes) with no squeal and very slight shedding. The SE fell to 3.9%. At around the same time, a series of tapes in varying condition was treated for 3 weeks at 30°C and <10% R.H. Most of the tapes recovered to a degree, although for some the improvement was slight rather than dramatic. We realised that patience and greater understanding would be needed to pursue the process further. A typical tape from this batch is shown in fig. 8, along with the earlier example.

Arrhenius equations can be used to help estimate time elapsed before failure or recovery in such reactions. A simplified model can be expressed as:

$$\ln LE = k/T$$

where LE equals life expectancy or time elapsed before failure/recovery, T equals temperature, and k is a rate constant based on the activation energy for a particular formulation, and the humidity of the storage or treatment environment. Rate constants from such projections suggested that longer times or higher temperatures were needed to restore many tapes to a more playable condition.

Our current program is based on a limited range of temperatures (usually around 35°C) with longer treatment times and very low R.H. (below 5%) regulated by means of chemical desiccant and/or thermo-mechanical (refrigerant) systems. Stable laboratory-type environmental and vacuum chambers are used to avoid pack stress or damage from fluctuating temperatures which typically occur in domestic ovens. Tapes treated in this manner show consistent improvement in key parameters. Fig. 9 shows the results of SE and pH of representative samples from recently restored collections; the sequential shelf numbers appear along the x-axis. Significant recovery of most tapes took place over 6-10 weeks with further improvement after this time. Although some forward planning is necessary to organise workflow between the lab and studios to maintain rates of subsequent dubbing, the actual labour component for batch treatment and monitoring is not great.

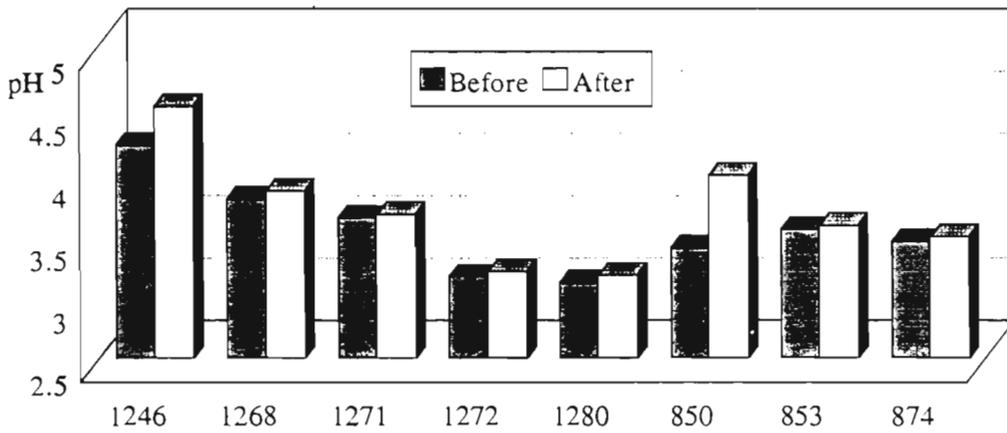
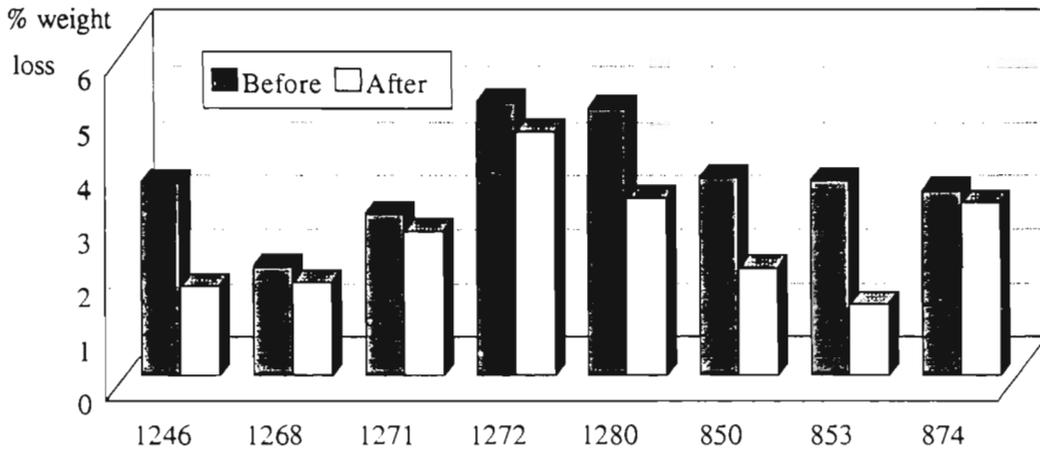


Fig. 9: SE & pH of tapes rejuvenated @ 35°C < 10% rh for 80 days

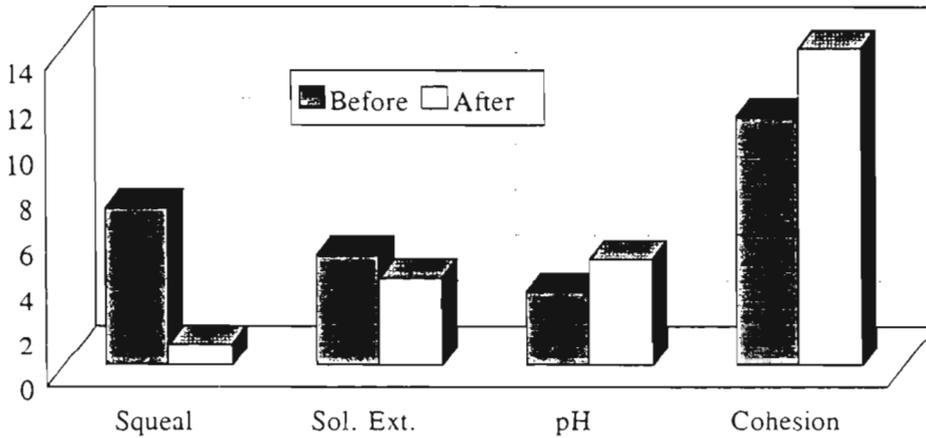


Fig. 10: Correlation of rejuvenation analyses.
15 yr-old PE-U tape; 45°C < 10% rh x 3 weeks.

If tapes are needed in a hurry, a higher temperatures may be used, but we stop well short of 'baking' tapes as is commonly advocated. At temperatures over 35°C tapes are normally interleaved with blank stock, separating layers to minimise print-through. Typical results for a fast-tracked tape are shown in fig. 10 which illustrates the correlation between key measurement parameters and playability. As well as SE and pH the graph shows the improvement in cohesion as previously described, and audibly-assessed squeal falling from 7 (pronounced after a few minute's playback) to 1 (barely discernible). Specialised cleaning and reproduction machinery may still be used on many tapes to ensure that faithful dubs are made.

It is understood that complete reversibility of decomposition may be limited by factors such as the migration of plasticisers, lubricants and other constituents including broken-down products of decomposition; secondary reactions, crosslinking or combinations of constituents forming different compounds to those originally present; changes in physical properties of tape over time.

Summary

In modern ferric oxide tapes on PET substrates, the PE-U and PVC binders are likely to be the least stable component. Hydrolysis is indicated as a significant factor in the failure of PE-U whilst dehydrohalogenation can pose a threat to PVCs. Moisture (airborne humidity), temperature and acidity are all contributing factors.

When properly conducted, solvent extractions and pH measurements provide a useful indication of relative binder condition, and show a strong correlation with other physical characteristics.

Accelerated ageing can show up relative stability amongst similar formulations and should be used systematically by archives on new stocks for recording and dubbing. Further studies of tapes aged and treated under conditions closer to 'real life' are needed to derive more accurate rate constants for the forward and reverse equations.

The complexities of tape composition, and the interaction between tape condition, playback environment and machinery make it difficult to exactly predict future behaviour of media, although basic housekeeping rules must still be followed. Storage at low humidity and temperature (less than 35% and 18°C) is indicated, although both are hard to maintain simultaneously. Because the effects of prolonged storage or treatment at very low humidities (less than 20%) are not completely understood (possible loss of lubricant, plasticiser migration, etc.) common sense would indicate a balance of low humidity and temperature; the rate of most reactions such as hydrolysis is slowed at low temperature.

Despite a modicum of success with low humidity rejuvenation, prevention is still better than cure. We cannot be sure of total reversibility of the decomposition process or a complete recoverability of playability for all formulations. The long-term costs of low humidity storage are certainly less than for treatment and dubbing of hydrolysed tapes. Indeed low-humidity storage and treatment are part of a continuum of environmental conditions; having stored our tape under conditions which stabilise or even reverse hydrolysis, they can be played immediately after retrieval rather than having to wait even 24 hours for baking! Packaging with desiccants to provide a dry micro-climate, or hermetic sealing may be appropriate in some cases (PE-U can consume moisture from a finite micro-environment as it hydrolyses until an equilibrium is reached). Further investigations are needed, however.

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RESTORATION OF TAPES WITH A POLYESTER URETHANE BINDER

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Presented at the Technical Committee Open Session at the IASA/ASRA Conference, Canberra, 1992

Baking tapes to reverse the symptoms of hydrolysis is the conventional approach to the problem of tape degradation. This is, however a 'sledge hammer' technique, which while removing the obvious artefacts may damage the tape, and could leave hidden faults on an analogue tape. Acetone extraction, the method often used for evaluating the level of hydrolysis in a tape, is inaccurate and cannot be used in the specific case, it may also be questionable in the general. The paper examines these problems and suggests areas for further investigation.

In 1990, at the National Library of Australia, the collections were surveyed in order to quantify the number of tapes in the collection suffering from one of the syndromes that have been called hydrolysis. Though the problem of hydrolysis is in fact one that belongs to all tapes with a polyester urethane binder, some specific brands of tapes were deteriorating at a greater rate than others. The display of the symptoms of hydrolysis, that is tape squeal, sticky tapes and gummy deposits on the heads, are, for the most part, limited to one or two brands of tape.

The collection was surveyed by determining which tapes belonged to the critical problem area of type and age, assessing the number of these that exhibit these faults, and then surveying the collection for the identified tapes. Identified in the Library's collection were 1,140 original tapes suffering from the problem. Duplicates are not included in this figure. The collection is made up of original tapes (cf. Host Country Showcase, The National Library of Australia), consequently problems represent faults with unique items.

Due to a long awareness of the problem, some speculation on a suitable and cost effective solution into the problem had been going on. The most favoured option was one in which the tapes were stored at a very low humidity for a long period, hopefully allowing treatment of tapes *in situ*. In a simple hydrolysis reaction basic chemistry suggests that the removal of water from the reaction would cause esterification, or the reversal of the hydrolysis reaction. It was hoped that this could be achieved by placing the tape in a suitable bag with a mechanism for removing moisture like 'HC paper', a moisture stabilising product that had come onto the market and was intended for use in exhibition cabinets.

To test the process we placed the tapes in a dry oven for 6 weeks at as near to zero humidity as possible (probably below 5% RH), and at a slightly elevated temperature of around 300C. The tapes were from two different sources. Baking tapes at elevated temperatures seems to be fairly destructive, at least the level of damage has not been properly evaluated, so the idea of lower temperatures appealed. The existing literature suggested that such an approach should be successful.

When, some six weeks later, the tapes were removed it was found that the process was not completely successful, and a large number of the tapes were still exhibiting signs of hydrolysis. Due to the subjective nature of assessing improvement in uncalibrated, and consequently, unmeasurable audio signals, it was difficult, if not impossible, to quantify the level of amelioration. There was a feeling that some improvement could have occurred, but

how could we measure this? Given the time and conditions, and based on the literature available, the treatment should have produced a complete reversal of the hydrolytic reaction. There is no agreed measurement for the level of hydrolysis, and the level to which it must be restored. The only rules seem to be if it squeals bake it till it stops. To further muddy the waters, it would seem that most of the papers reported tests that were carried out on artificially aged tapes, and there may be some reason to suspect that they are not wholly reliable.

This lead us to investigate the four main points I want to discuss in the paper. I don't necessarily have solutions to the problems, but the questions cause us to reflect on how we treat our hydrolysed tape problem.

Is the breakdown of tape a purely hydrolytic reaction, and does the heat treatment reverse it?

Are artificially and naturally aged tapes the same?

How do we measure the level of tape degradation and restoration, particularly with analogue recordings which would be affected by the problem?

Is acetone extraction an indication of the condition of any specific tape?

Is the tape a purely hydrolytic reaction? The hydrolytic reaction is an ongoing process, the linkages in the polymers that make up a tape binder, cleave and reform without any apparent long term loss in molecular weight, and this occurs at low humidity, in other words, at well maintained storage conditions. However, if this reaction occurs in the presence of a fatty acid, then the reformed polymers may have a permanently lower molecular weight [Anglin 1991]. In other words, they will produce the symptoms of hydrolysis, head clog and tape squeal.

Fatty acids are often present in tapes as lubricants and when they are involved in the reaction, the loss of the lubricant as well as the production of unwanted sticky by-products is a result. This is a dilemma for tape manufacturers, the very product that makes a tape impervious to wear, also sews the seeds for its long term destruction [Layne 1991].

Secondly, the manufacturers of the tapes that belong to the target problem period, that is those that are showing signs of hydrolysis in storage now, sourced a lot of sub-standard polymers in the production of their tape. These polymers pass through the hydrolysis and esterification reactions more readily than the longer chain polymers.

Tapes manufactured now have tighter quality control over their raw materials, and though information is scarce about precisely what is in the concoction that makes up a tape, I believe the concentration of fatty acid lubricant is less, or at least better controlled.

An artificially aged tape will not necessarily be the same as a naturally aged one. If a recent polyester urethane tape is subjected to extreme conditions to simulate age it will not produce the same reaction as in an older tape as the make-up of the binder is now significantly different. An artificially aged tape may produce different products to a naturally aged one quite apart from these reasons because "*there is a degree of uncertainty about what is happening to the binder when tapes are aged at low relative humidity*". [Brown, Lowry and Smith]. So while it is possible to reverse a hydrolytic reaction in a dry condition at room temperatures in an artificially aged tape, it is not necessarily the case that a naturally aged tape will react the same. By the same token, it may be that the partial improvement results in a playable tape, but that some of the artefacts of hydrolysis are being passed to the

duplicate of the recording, due to the incomplete, though unmeasured reversal of the reaction.

Almost all the research done to date that attempts to link physical condition with playability has been done on data storage tape, most often the 1/2" tape used by the computer industry for information storage. The reasons for the choice of data tapes is twofold. Firstly, it is easy to measure readability faults with a data tape, error readings can be linked to the condition of the tape simply and accurately. Secondly, funding and support for these kinds of projects come from the computer industry, which has an interest in saving this data and to which monetary value can be ascribed.

Though it is possible to extrapolate from the data recording and apply the results to analogue recording, there is an element of degree that is insignificant in a digital recording, but may be a problem in analogue recording. A data recording will stand a higher level of speed variation than analogue, and show no sign of the problem. When a hydrolysed tape is copied, artefacts of the process may inadvertently be passed on. It may be that scrape flutter or other speed related problem, though low in level, is now an integral part of the duplicate.

There is reason to be concerned, or at least to investigate this problem. Commercial remastering engineers often encounter hydrolysed tapes, at least in Australia, and recover them by placing the tape in an oven at high temperature, and replaying the tape the following day, the standard practise. Many have reported an unexpected high frequency boost, or an increase in what they term clarity. One engineer seriously suggested that he might routinely bake all the tapes he remasters, hydrolysed or not! In the National Library of Australia hydrolysed and nonhydrolysed tapes from a similar source have been compared after restoration of the degraded tape. Though there was an observed difference, it was not quantifiable, and may have been attributed to a number of other variables.

The project aim of the Library was to investigate a way of linking chemical or physical condition of a specific tape with the analogue replay characteristics. This was to be achieved by recording a series of different tones to allow the measurement of such standard things as frequency response and noise and distortion, and also to measure scrape flutter and other speed variations in limited frequency bands, and to measure intermodulation distortion. The tape would be gradually aged and then gradually rejuvenated, and the resulting changes in properties measured. It was intended to use acetone extraction as a method of measuring the chemical degradation.

The rationale behind solvent extraction is that the polymers with a lower molecular weight are soluble in acetone, and those with a higher molecular weight are not. In other words it should be possible to remove in solution the products of hydrolysis and by measuring the difference in weight between pre and post immersion in solvent, deduce the amount of polymer in the binder that has been hydrolysed.

The results, to jump ahead slightly, were unpredictable, and the values shown are from the most reliable process. Prior to this various methods of stirring the solution were tried to ensure predicability, from mechanical stirrers to soxhlet extraction. In the end the orbital shaker, which does four beakers at once was employed to stir the solution.

A reel of blank, naturally aged tape that exhibited the characteristics of hydrolysis was cut into lengths of 200 mm weighed and placed in beakers with 20 ml of acetone. The beakers were agitated for around 25 minutes. though in practise, any time longer than 20 minutes and less than 50 minutes seemed to make very little difference. After this time the tapes were removed from the solution and rinsed in clean acetone to dislodge any material in solution and still attached to the tape. The tapes were then left to dry for a minimum of two hours,

and then were weighed the difference was calculated and expressed as a percentage of the total weight of the tape.

$$\% \text{ change} = \frac{W_t - W_s}{W_t} * 100/1$$

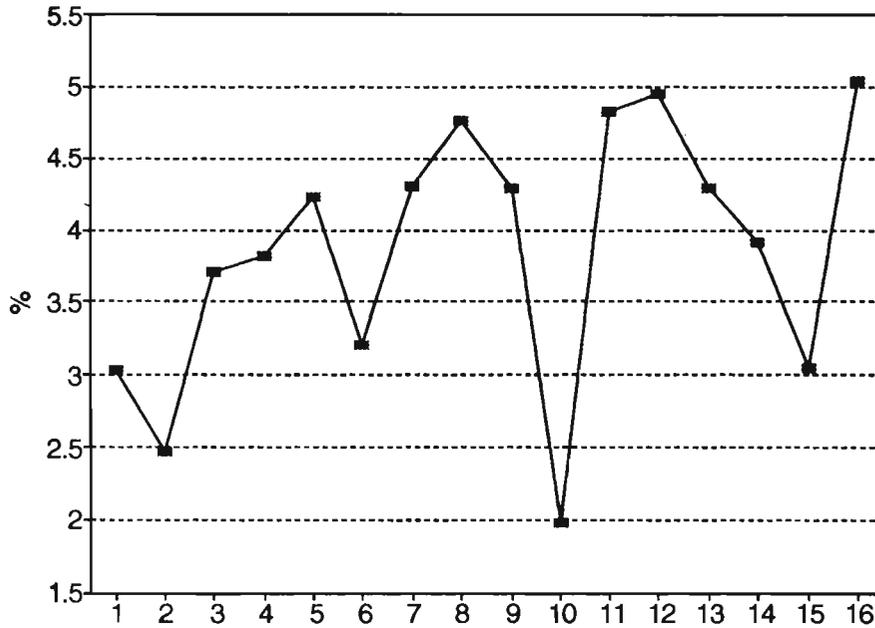
where

W_t = weight before extraction

W_s = weight after extraction

The tests were repeated a number of times and the results plotted. There was a wide variation between the results.

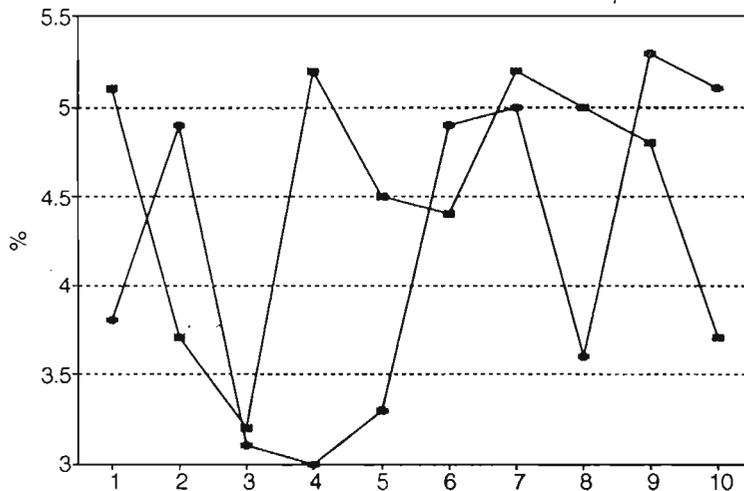
Variation in Acetone Extraction



This graph shows the variation between the percentage of material extracted from pieces of tape taken consecutively from a reel. The variation is significant, nearly 50% difference can be found between the highest and lowest percentage extraction.

To reduce this variation, or at least to see if it was related to position on the reel and exposure to environmental conditions, we took the 200 mm lengths of tape and split them down the centre. The tapes were then put through the acetone extraction process and the two halves compared. The process was again repeated and the result plotted.

Variation in Acetone extraction Horizontally split tapes.



This graph shows the variation between the two halves of the tape, the variation is again significant.

Brown Lowry and Smith claim that a 5% acetone extractable content would equal in weight 60-70% of the organic binder being soluble. Practically, this extrapolation is hardly likely to be accurate. When a naturally aged tape is placed in acetone to extract the soluble component of the binder, the material the binder is designed to hold is also removed with the solvent. Within a few minutes, backcoat begins to show visible signs of disengaging itself from the tape, certainly well before any significant amount of binder has been dissolved. Oxide in small quantities also leaves the tape during the process, though this probably weighs more, it is less visually obvious. When a new or artificially aged tape is shaken in the acetone, the loss of oxide and backcoat is much less.

A 5% extraction of soluble material is in keeping with the work done by Cuddihy, who got a similar result in his tests. Our 5% extraction included a significant amount of backcoat and oxide, components which would effect the measurement of overall weight loss. It would therefore reflect a figure somewhat less than the 60-70% of organic binder materials suggested by Brown Lowry and Smith.

The combined weight of oxide, backcoat and binder material amounts to around 30% of the total weight of a tape, the substrate amounts to around 70%. The 5% extraction refers to the **total** weight of material including the largely insoluble substrate. When the figure of 5% is compared to the possibly removable amount of material of 30% the figure derived from acetone extraction is around 17% when compared to this, the errors are also correspondingly

larger. When comparing this to the total weight of organic extractable binder material, which is around 8%, the variations are even more alarming.

Under these sort of conditions, it would seem that it is not possible, using acetone extraction, to determine with any degree of precision, the condition of a given tape. And even if there was a process that would allow us to measure the degree of degradation there is no way of correlating this to performance, and no way of applying a level of restoration to the particular problem. The National Bureau of Standards report concurs, stating that the acetone extractable percentage (or sol content, as they call it) is not a good indicator of the lifetime of a tape [Brown, Lowry and Smith].

If we return to our four questions, we must conclude that there is a great degree of uncertainty in treating hydrolysed tapes, and there is not a really satisfactory method of determining the condition of any particular tape, other than the purely subjective one of playing the tape.

We as sound archivists are faced with a dilemma: how do we treat our hydrolysed tapes? While putting them in an oven produces results, it seems that the present explanation of rejuvenation is not appropriate. We are putting our tapes in the oven of ignorance. Are we doing damage to the tapes in the process? If we wait while another solution is found will the tapes degrade beyond hope of repair? This is certainly possible with artificially aged tapes, but will natural condition degrade a tape beyond the repairable?

I know as a preserver of sound that I am under pressure to resolve the situation and provide immediate access to the material, and as a consequence I bake a tape if there is a request to use it. Should we then just accept the problems with good grace and be grateful for the tapes that are now playable, and were not before?

I personally think we should concentrate our efforts into finding a suitable way of measuring the level of degradation of polyester urethane binders in the particular case, and to find out if degree of degradation is significant in the most important area, that is, the replay of the tape. Armed with this information we can then apply the minimum of the potentially damaging restorative work accurately, rather than the haphazard and potentially damaging way we are now.

The author would like to acknowledge the work done by Leanne Brandis, scientist and fellow member of the National Library of Australia's Preservation Services Branch. Ms Brandis performed or set up the laboratory measurements and ensured the accurate realisation of the chemical analysis. Kevin Bradley and Leanne Brandis will be jointly working on the further recommendations in this paper.

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Australian Academy of Science, Canberra

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(obtainable from Milton Keynes. £25 GBP)

Technical Coordinating Committee of FIAF, FIAT, IASA and ICA

Final report of the second consultation of users and manufacturers of technical equipment for audio, film, and television archives. Vienna May 5-6 1989. TCC, Milton Keynes, 1989.

Technical Coordinating Committee of FIAF, FIAT, IASA and ICA

Guide to the basic technical equipment required by audio, film, and television archives. TCC, Milton Keynes, 1991. 93p.

Basic tool for the selection of archive equipment and configuring the equipment to suit the particular needs of AV archives. Divided into three areas of film, television, and sound archives.

(obtainable from Milton Keynes. £10 GBP)

FIAF, FIAT, IASA

Archiving the audiovisual heritage: a joint technical symposium. Stiftung Deutsche Kinemathek, Berlin, 1988. 169p.

Proceedings of the Joint Technical Symposium held in Berlin, May 20-22, 1987. 31 papers dealing with the preservation, restoration and conservation of film, video, and sound recordings.

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The following UNESCO publications are obtainable from PGI Publications, Unesco, 7, place de Fontenoy, 75700 Paris, France. UNESCO publications are usually available free of charge.

Harrison, Helen P., editor

Audiovisual archive literature: a select bibliography, prepared for the General Information Programme and UNISIST. Paris, UNESCO, 1992. PGI-92/WS/2.

Harrison, Helen P., editor

Curriculum development for the training of personnel in moving image and recorded sound archives. Report of the Curriculum Development Working Party. PGI-

90/WS/9. UNESCO, Paris, 1990.

The study, carried out by members of the Round Table on Audiovisual Records, a Unesco group of NGOs, includes sections on the training needs of av archivists, recommended standards for training, a draft curriculum, the organisation and harmonisation of education programmes, and proposals for implementation of the programmes. Appendices include a survey of potential training institutions and a select bibliography.

Kofler, Birgit

Legal questions facing audiovisual archives. PGI-91/WS/5. UNESCO, Paris, 1991. 71p.

Proposed a set of guidelines or model provisions which might be considered in preparation of new, or the revision of existing legislation on audiovisual archives. The principles are aimed at the preservation of the audiovisual heritage. The proposals are accompanied by an explanatory commentary indicating how the guidelines evolved. Useful appendices include: a bibliography (pp.55-58); a list of relevant national legislation; and a detailed analysis and description of international legal instruments.

Harrison, Helen P.

The archival appraisal of sound recordings: a RAMP study with guidelines. PGI-84/WS/12. UNESCO, Paris, 1987.

Ward, Alan

A manual of sound archive administration. Gower, Aldershot, 1990.

Major up-to-date work for sound archivists, surveying existing sources and practice. Draws much of the current work together and cites many documents. Valuable also for its compilation of current documents. Appendices include codes of practice for archival procedures and a very useful glossary of terms, based on the ARCS AAA project.

Obtainable from Gower Publishers, Gower House, Croft Road, Aldershot, Hampshire GU11 3HR, England. £35.00.

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5. Selection in sound archives, edited by Helen P. Harrison, 1984 ISBN 0 946475 02 4	60	90

Prices quoted are in Norwegian Kronor and include postage by surface mail. Orders together with payment shall be sent to the Treasurer, Marit Grimstad, Programarkivet NRK, N- 0340, Oslo, Norway. Checks shall be made payable in Norwegian Kronor to the International Association of Sound Archives.

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