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As expected, the Vienna Conference in September, which celebrated the centenary of the Vienna Phonogrammarchiv and thirty years of IASA business, did its best to send delegates back to work feeling reassured about the principles which have guided their profession so far and confident that the digital age that has been mapped out for us is the correct way forward. Few would argue that this was not the case, but I do not believe that I was alone in detecting an undercurrent of uncertainty as speaker after speaker alluded to the involvement of supernatural phenomena and divine providence in our work. Were they allowing the impending millennium with its associated eschatological predictions to influence their outlook?

Rainer Hubert, from the Österreichische Phonotheke (whose perspicacious definition of AV media is included in these pages) started the trend by invoking Proteus, the omniscient Greek god who was reluctant to tell anyone what he knew unless overpowered and coerced. He could also change shape to avoid being captured. Rainer has therefore cleverly invoked him as a symbol of the matter with which audiovisual archivists have attempted to wrestle over the years. Then, later in the conference, our past President Sven Allerstrand invoked the Roman god Janus, spirit of doorways and archways (after whom January was named). Janus is usually represented as a double-faced head and this aspect was taken to symbolise IASA’s transitional position between the past and the future. Another speaker, during one of the many excitable moments of the second General Assembly, went so far as to claim divinity for IASA. Next business was moved, quickly.

While nobody went as far as to propose an Eschatology Task Force for IASA, there were some obvious gaps left in IASA’s pantheon. If the main concerns of IASA are to preserve audiovisual information in the face of overwhelmingly destructive forces, then we should be paying homage to Vishnu and Shiva, two of the great divinities in India and perpetual rivals. Shiva’s destruction always prevails, probably because Vishnu spends most of his time asleep. But in sleeping Vishnu also dreams, and those dreams sustain the beauties of the world (which must now include the holdings of audiovisual archives). But there is another deity associated with them, Brahma, a creative principle who intervenes very little in their battles. Applied to IASA, Brahma might represent intelligent selection, always needed but seldom in evidence.

Selection will, however, be making an appearance at the Singapore Conference and it will be interesting to note there the proportion of human acts to acts of gods that are believed to be involved in this particular process.

We are, quite rightly, respectful and apprehensive about making choices which may determine events in the future. Can training help? If so, what level of expertise and general knowledge must be attained before a curator can be considered responsible for making decisions about selection or rejection? If a researcher asks your curators to help with their own selection from your catalogue of, say, two-hundred and fifty recordings of Paul McCartney’s Yesterday or the seven-hundred and fifty oral history interviews in which the
Holocaust is discussed, what criteria will govern their response? Are they the same criteria which might govern that same curator’s selection of material for early inclusion in the archive’s digital store? If one were to carry out a survey of the opinions of IASA members on this issue, those criteria would almost certainly relate to technical considerations, e.g. most vulnerable carriers, obsolete media, reasons for exclusion in the case of the researcher’s enquiry, reasons for inclusion in the case of digital storage management.

Should any other criteria impinge on the relative objectivity of these technical criteria? What about the circumstances under which the recordings were made, the perceived cultural value of the recordings? We are on relatively subjective ground here, even perilous when it comes to opinions about cultural value, but an awareness of audiovisual history and how it relates to history in general must play its part, and this is why I believe it is important to ensure that IASA’s business, particularly at conferences, is not confined to reflections on our working routines.

It was evident, for instance, at the Vienna conference and also in Paris last year, that the most instructive as well as the most entertaining sessions were those which involved people from outside IASA giving us the benefit of their professional experience and knowledge about topics which are considered peripheral to the central concerns of conservation, documentation and providing services. This year’s ‘peripheral’ topic was the history of recording in Vienna. Most delegates would have been aware of the importance of composers and musicians based in Vienna. Many would have been aware of the technical problems associated with recording large orchestral and choral forces which one Viennese composer, Mahler, typically prescribed for some of his compositions. Few would have known that he also gave specific instructions for their deployment on stage. Even fewer would have had the slightest appreciation of how recording producers and technicians have approached these problems and how successful have been the results. It was therefore enormously instructive to hear those results presented and criticised by David Pickett and to have some of our assumptions about what makes a successful recording challenged. If those present at the presentation Mahler in the recording studio were now asked to select those recordings which best respected the composer’s wishes then they would know to begin selecting from those made for radio by radio technicians rather than those involving star names on major record labels.

After Pickett’s ‘pick’ of Mahler came the veteran orchestral conductor Jonathan Sternberg’s half-hour reminiscence about recording in Vienna during the early LP era. This was an impromptu presentation consisting largely of a sequence of ‘revelations’ about the opportunism and exploitation which characterised the recording industry’s activities in Vienna, which was then still afflicted by the deprivations of the aftermath of the Second World War. Record piracy was all part of the game: for the orchestral musician the name of the game was economic survival. Some of the major recording artists of the time recorded there under pseudonyms (for contractual reasons) while others who have become major names were able to launch their recording careers without difficulty (or even without much
say in the matter, which is why a few of them have taken the trouble to disown their early Viennese recordings). Meanwhile, those same recordings continue to be re-released to this day in the form of low-price reissues, often retailed in supermarkets, with little or no consideration for rights.

But this was not the main point of Sternberg’s presentation. What he described was a ‘race’ between the early LP producers to feed the hungry western market for recordings of the orchestral repertoire which the new enlarged LP format was able to accommodate without the constant annoyance of side changes. The more obscure the repertoire - relatively speaking - the better. You will not, for instance, find more than a handful of works by Haydn in record catalogues before this period but the famous musicologist and Haydn champion, H.C. Robbins Landon, who was very active in Vienna at that time and a close associate of the speaker, was able to take advantage of these extraordinary circumstances and ensure that as many of Haydn’s works as possible were recorded, paving the way for subsequent ‘complete’ cycles.

You will have to wait until Jonathan Sternberg publishes his autobiography to learn the full story as neither this presentation, nor David Pickett’s, were in a form suitable for publication and this is, maybe, a disadvantage of such presentations. Unless you were there, you would not have had the chance to benefit from these first-hand accounts by people involved in the making of the recordings we archive. Suitability for future publication should not be the main guiding criterion for selecting papers from speakers, however. If they add value to a conference, as these two presentations most certainly did, then slots for external speakers addressing themes relating to the recording history of the conference locality should continue to be reserved.

With this issue of the Journal I have tried to capture the sense of “taking stock of our position” which was the dominant theme of the Vienna conference. This theme will be carried over into the next issue as well since there were far more candidates for inclusion than could be accommodated in a single issue.

By the way, I do not believe that anything terminally disastrous will happen on January 1st. Wherever you are, enjoy the festivities.
President's letter

This is my first opportunity to greet you all as President following my election at the Vienna conference. Thank you for electing me; I look forward to serving your professional interests to the best of my ability over the coming three years.

The affairs of our Association are governed by the elected Executive Board which meets twice a year and undertakes much work in between meetings. We now have a new Board as well as a new President. Albrecht Häfner continues his sterling work as Secretary General and Chris Clark continues as Editor, but we have a new Treasurer in Pekka Gronow. Each of our three Vice-Presidents has a particular area of responsibility, and the presence of the immediate Past President, Sven Allerstrand, provides important continuity for the new Board.

I believe that the key tasks of the Association are twofold: to enable a rich flow of information between members, and to represent our professional interests to the world beyond. Information about standards, initiatives, and developing practice is shared through our publications, our website, and our annual conference. The Board will also support programmes of work undertaken by Task Forces, Committees, and Sections. Following the successful completion of the IASA cataloguing rules a new Task Force is being set up to consider the complex but important issues arising from the need to select and set priorities for the conservation of analogue recordings by transfer to the digital environment. We will continue to develop a portfolio of policy statements and guides to “best practice” which will provide a source of professional guidance for members, and also provide a firmer basis for presenting our interests to others. We have the opportunity to make common cause with neighbouring professional organisations through the Co-ordinating Council of Audiovisual Archive Associations and we also seek opportunities to promote our Association’s work through engagement with UNESCO, the European Commission, and other bodies.

A major task each year is the organisation of our principal and flagship event, our annual conference. July 2000 in Singapore will be a memorable event: we are convening with the South East Asia & Pacific Audio-Visual Archives Association (SEAPAVAA). Our colleagues in Singapore are already working hard to plan this event and we can look forward to a rich programme of papers, presentations, visits, and hospitality. We have much to learn from each other and the programme will reflect our determination to hold a joint conference (rather than two conferences sharing the same venue). Renew old friendships, make new ones, improve your professional knowledge, don’t miss it!
Keynote Address to the IASA Annual Conference  
Vienna 18-25 September 1999  

Rolf Schuursma

In July 1979, on the occasion of my Presidential Address at the opening of the IASA Conference in Salzburg, it was my pleasure to congratulate the Phonogrammarchiv on its eightieth year. Nonetheless, I felt it my duty to remind the audience of a certain great piece of world literature in which a much older and somewhat different sound archive was demonstrated. That archive operated at very low cost, with virtually no managerial problems, with simple analogue technology and a surprising kind of public accessibility. I am, of course, referring to the horn of the coachman of Baron von Münchhausen – the horn which outside, in the bitter cold, got frozen and thus saved an archive full of beautiful melodies. Once warmed up in the cosy atmosphere of a local inn, it began to play those melodies entirely by itself, without any human interference. Unfortunately no Akademie der Wissenschaften was there to channel the experience into the grooves of research and development, which in the case of the Phonogrammarchiv brought so much profit to the world of sound archiving. Therefore, my little historical excursion, however well documented, has not appeared in archival textbooks and certainly will not keep us from celebrating the Phonogrammarchiv centenary today.

Allow me to continue this speech with a few words in German.


To summarise these words in English, it is my pleasure to congratulate the Austrian Academy of Sciences, the Kuratorium of the Phonogrammarchiv, and, in particular, my friend Dr. Dietrich Schüller, on the centenary celebration of the Phonogrammarchiv. We all admire Dietrich Schüller’s professional work and it is our hope that he, his staff and the personnel from the other well-respected Austrian archives will continue their efforts, to the benefit of sound archives throughout the world.
There is yet another reason for this festive occasion. In 1969, in Amsterdam, the International Association of Sound Archives, IASA, was founded. Today we celebrate its thirtieth anniversary. In the same Presidential Address at the opening of the Salzburg Conference, which I mentioned before, I could not help wondering why it took so long before sound archives successfully accomplished the establishment of such an organisation of international status. I asked myself this all the more, since the distance in time between the inventions of Thomas Alva Edison and Charles Cros and the foundation of the first sound archive was only twenty-two years. However, we will not go into that question just now. Suffice it to say that after the enthusiastic but somewhat uncertain beginning, the Association — and I quote a few terms from the Presidential Address of David Lance in September 1981 — became ‘adolescent’ and subsequently reached ‘adulthood’, and even ‘maturity’.

Because, of course, like every organisation of this kind, beginning from scratch, IASA has gone through different stages, each with its own qualities and problems. In his ‘Personal Review of Thirty Years of IASA’ in the recent Information Bulletin, Ulf Scharlau referred to the diplomatic, rather than professional challenges that IASA had to cope with in its initial stage. How true it was. The relationship with the International Association of Music Libraries, IAML, the organisation that had stood at the cradle of IASA, was not always easy. Yet, I also remember gratefully the support we received from IAML when IASA still had only a few members, people who were often also members of IAML, and little financial means.

But apart from these considerations, I would call the first stage of our Association the period of ‘getting acquainted’. The newly recruited members of IASA got to know each other as well as each other’s archives. In the meantime the membership was becoming world-wide. In those days music was still the ‘raison d’être’ of most member archives, very much stimulated by the close co-operation with IAML. However, at the end of that period, in 1975 in Montreal, a session about oral history testified to the growing importance of that and other non-music fields.

The second stage, which we could title ‘how did we do it’, was the period in which we studied each other’s solutions to collecting, storing, cataloguing, access, copyright, technical matters - the period in which we also began to professionalize the management of the Association and to set up committees dedicated to several of these subjects. In the technical committee Dietrich Schüller started what became an impressive range of research and recommendations.

Finally in the third stage, which we could title ‘widening the scope’, IASA received international recognition, in the first place from UNESCO. The Association began to play a role in the international information field: a status which IASA still enjoys. It is the fruit of continuity but also rejuvenation, thanks no doubt to the mix of experienced members and younger, developing talent. The recent refreshing design of IASA’s house style is a token of that rejuvenating attitude. Personally I am very pleased that IASA’s logo, designed during the first days of the Association in my Institute in Utrecht, has been kept.

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Throughout the different periods of IASA’s history many members contributed to the well being of the Association and its expansion. There were those who for many years were instrumental in raising the quality level of sound archiving and now belong to the gallery of honoured deceased. To name only a few: IASA’s first two Presidents, Don Leavitt and Timothy Eckersley. And then several other distinguished members of the Association such as Herbert Rosenberg, Iván Pethes, Philip Miller, Claudie Marcel-Dubois and very recently Patrick Saul and Dietrich Lotichius. One remembers them with great respect and is grateful for their friendship. In the meantime the Association moves on.

Moves on, indeed. One of IASA’s decisive steps towards the future has been the change of its name in order to incorporate audiovisual archives. ‘What’s in a name?’ and how little it takes to add a few words to the title. However, it took the Association, if I may say so, quite some time and deliberation before it changed course. In the IASA Journal President Sven Allerstrand recently mentioned ‘lengthy discussions of a decade or more’. I can help him there. As early as 1970, during its second annual meeting in Leipzig, some IAML and IASA members felt that the new Association could only survive if it incorporated audiovisual media. I also remember vividly the much later discussion between Ulf Scharlau and Dietrich Schuller in Helsinki, in 1993, each defending their own opinion as to the future of the Association. I read again with interest the remarks made from the floor at that same session, amongst them Rainer Hubert’s argumentation for expanding into the AV field. These contributions were published in the IASA Journal, together with the urgent plea by Ray Edmondson for a widening of IASA’s scope, as well as several opposite opinions. If I understand it well, it was not a group of audiovisual archives that knocked on IASA’s door and forced the Association into the new direction. Rather it was technological development that pointed towards a more general audiovisual direction. Or should I say: the general digital direction in which all information seems to be heading these days.

Indeed, might it not be that the widening of IASA’s scope has only been another step towards the new digital age. Will that be an age, in which the virtual reality of information will increasingly take the upper hand at the cost of the traditional realities of the physical world? The founder of Amazon.Com, Jeff Bezos, was quoted in The New Yorker of May 14, 1999 as follows:

"The fact of the matter is, the physical world is the best medium ever. It’s an amazing medium. You can do more in the physical world than you can do anywhere else. I love the physical world!"

I am sure we all agree with him, if only now because we are enjoying the pleasure of being in Vienna. But the virtual world of digitization is just as exciting and promising, as Mr. Bezos would probably agree. It is only when virtual realities come to erode some of our most valuable cultural heritage that we tend to think twice. Take the case of research and university libraries – a field with which in the later part of my professional life I became well acquainted and which I can refer to now in order to point out one or two considerations on the threshold of the digital age.
According to many information technologists the role of research libraries will soon be shifting definitely from the traditional ways of collection building and distribution of book materials to one of supplying the right kind of digitized information for the right user at the right time. Libraries will no longer measure their value in terms of the amount of volumes on their shelves, in other words their millions of books and bound periodicals. Far more important will be the accessibility of information available throughout the world and the ability of the libraries to select from the unending amount of data just that information which will suit the user. Of course this can only be accomplished if libraries take part in networks, connected throughout the world by the Internet. A few weeks ago, when my wife Ann and I visited the Reference Department of the Library of the University of California at Los Angeles, we were able to view practically the whole library system of the Netherlands displayed on the computer screen. Searching whatever title in my former University Library in Rotterdam via the net connection was just as easy as if we were doing the same exercise at home. And that is how it should be.

But there is more. Natural scientists, in particular, who mainly work with factual data, have a strong need for continuous contact with databases, and, via e-mail, with colleagues throughout the world. They are very well served by new digital developments. But other researchers, particularly in the humanities, have a need for more elaborate, contemplative, reflective texts which one does not easily take from the rather restricted computer screen. Next to using the net, they want media more effective from their point of view – namely book materials. Therefore university and research libraries, which exist to cover the full range of human knowledge, do well to invest in both digital networking and the collecting and distributing of book materials. Unfortunately, in most library situations, financial restrictions make it impossible to give both sides the commitment they deserve. In many cases collection building suffers. In this respect, and despite its enormous advantages, the strong accent on the primary role of digitization of all information can cause an erosion of our cultural heritage, particularly in the humanities.

I wonder if this problem rings a bell in the archival environment? Of course, there are important differences compared with the library field. Archives are by definition the place where one expects to find unique documents that cannot be found anywhere else. Therefore it is even more necessary to do everything to save these documents in such a way that their original qualities are preserved. Digitization seems to provide an important instrument towards that end. Reading the 1997 recommendations of IASA’s Technical Committee under the title The Safeguarding of the Audio Heritage – by the way this is a text that I plucked from the net – it seems that sound archives are taking good care of their future. Indeed, on our recent tour around the UCLA campus in Los Angeles, Ann and I saw a digitization operation underway in full force in her former workplace, the Ethnomusicology Archive. Thus, in this respect, sound and audiovisual collections seem to have a good connection with what is going to happen in the digital information age.
But this is still not the end of the story. What will the future bring? In the next century will not more and more information of all kinds stream out of the walls of libraries and archives into our private living rooms? At the same time will not analogous amounts of money be automatically transferred from the user’s bank account to the information brokers who keep the flood of data going? As long as archives succeed in safeguarding their portion of such financial deals, no harm will be done. At least it does not seem so. On the contrary, archives may well play a bigger role in the information industry than we can imagine now. The more people become interested in historical items from the previous century, the more archives will be asked to deliver them. Yet, it also seems to me that the urge to digitize all possible information, making it thus available on standard format to all kinds of agencies, is not without risks. I was confirmed in this respect by what I read in the recent issues of the *IASA Journal*. I refer to the lack of respect for archival materials that require time for detailed consideration instead of just ‘zapping’. And – as Grace Koch has pointed out – the lack of respect this may represent for authentic spiritual and intellectual property.

Are such considerations a reason to stop digitizing, either in the library field or in the sphere of sound and audiovisual archives? Of course not, if only because major trends in human history cannot be reversed. And believe me, digitization and all it implies, forms a major trend in human history. Besides, digital or not, there will always be music lovers who like to hear a complete recording, even repeatedly. There will always be researchers who, carefully and with respect for the past, like to understand what an oral history or linguistic recording has to offer them. And as regards libraries, there will always be people interested in the Adventures of Baron von Münchhausen, people who besides getting a lot of information from the net, will like to read the adventures themselves in book form.

At the end of this speech I would like to look at my musical score, change the key once more to major and see what notes are left. They include a few words from the Presidential Address of David Lance in September 1981 in Budapest:

"IASA is a special Association full of a lot of very special people. The great bond of our Association is that these special people come together first and foremost as friends. As a result there exists in IASA a closeness and a warmth that is quite unusual and quite outstanding among professional organizations of my experience."

I hope David Lance won’t mind my quoting him. I thank you for listening and I look forward to a very special IASA experience during this Conference week.
The Austrian Situation Today

Paper presented by Rainer Hubert, Österreichische Phonotheke, at the IASA/AGAVA Annual Conference, Vienna, 1999

There is an old and bad tradition which requires you to start by saying what you are not going to say – and this is my intention. There is only one thing worse – to give a wrong title to your paper. Therefore my title – The Austrian situation today – clearly says what I am not dealing with.

But to be honest and earnest: yes, of course I will also speak about my subject, but I will not stick to the point too literally. The reason is this: if I were to characterise the Austrian situation by specifying the key archives and by mentioning what they are doing, or not doing because of lack of money or resources, it would sound very familiar to you and most of information of that kind could be better passed on by written lists and papers.

Therefore I prefer to give you a very subjective glimpse of what comes into my mind when thinking about our medium, our profession, our institutions in Austria. I will start by looking back.

In the 1970s, AV-archives in Austria played a minor role in the cultural environment of our country, a role which was less than adequate. It does not do to inflate one’s importance excessively like the frog who wanted to be as big as an oxen. But to be a frog and then to be treated like a fly does not do either. And that was more or less the situation twenty five years ago and this was the main reason, why some AV-archives – mostly sound archives at that time – came together, founded AGAVA and started their co-operation and collaboration. This co-operation in itself did not improve the situation very much, but it helped us to cope with it psychologically: we were no longer lost alone in the woods at night, but a group of forlorn wanderers.

Most of our members have meanwhile developed their archives, their collections, their accessibility and also their public standing, but this cannot be credited to AGAVA. This development has its roots in the economical and technological development of our country as a whole and was accomplished through the hard work of the archives themselves. So most institutions work now in better conditions, I think, with better tools, but staff are still scarce and the global situation has not changed very much: there is still no rationally planned structure for AV-archives. Over the years, AGAVA has come up with some suggestions to improve structural planning, but they have not been realised.

That may be a rather sceptic estimation of AGAVA’s role so I have to add something AGAVA has been a part of the professional life of many of us. We have worked together a lot, learned from each other. We have developed some common views and joint positions. Our outlook
on the profession has been formed, has been changed by lengthy discussions within AGAVA or in the innumerable working groups we took part in: on cataloguing, on copyright, on definitions, on telecommunication, and so on. Just at the moment we are preparing a paper on the role our archives could play for the public and for culture and how the public could and should support us more effectively. We will present this paper in the autumn.

So, looking back at the situation at the time of the first IASA Conference held in Austria – Salzburg 1979 - and the second, in Vienna, eleven years ago, I have mixed feelings – yes, we are better off than we were then, but have not managed any real breakthroughs.

The basic situation is unsolved: AV-media-archives still do not have the standing of the older media institutions, the libraries, archives and museums. Is this only an Austrian problem?

One reason is that a tradition of one hundred years is not that impressive when compared, for example, with the pedigree of libraries. But this is only one part of the answer. Another part is a structural weakness and here I am hinting at the weak theoretical basis of our work. I really do not think that we have overcome the so-to-say, common sense approach to our profession. I have nothing against common sense, but I think that common sense needs to work in a framework of scientific and philosophical concepts. True, we have had several discussions on the philosophy of our profession in IASA and in the Austrian AGAVA. But I have somehow the feeling that what we discuss here is just one thing, and what we are doing from day to day in our institutions is something completely different. Theoretical pondering does not seem to influence our daily routines very much. I may be wrong, of course, but that is my personal impression.

This may be related to the fact that in Austria there is no real professional training for an audiovisual archivist as you would get if you became a librarian. There are library schools and training courses in which students learn the basic theories of our profession but I know enough about this training to remain rather dubious about it, but this may also be a sign of envy on my part. We do not have the equivalent of library science: there is a scientific approach to the work of record offices and paper archives, there is museology as a scientific branch, but after one hundred years of the systematic collection of AV-media this is not the case with AV-archiving. This is a bitter handicap for us all.

I have the feeling, even, that we ourselves are unsure about the nature of our medium, unsure about the impact of audiovisual media on the history of information and culture. We feel the need to tell the public about it, but do not seem to have convinced ourselves about it. I remember vividly a discussion only some weeks ago about film and AV-media and the doubts uttered there concerning whether or not film should be regarded as a category of audiovisual media. For so many years photography, film, sound recording and newer forms of recording have been living together or side by side, but their relationship does not seem entirely clear, even for members of our own profession.
For me this is a vital point. I think that all AV-media are structurally very similar. Their similarity lies in their way of conveying information, a new way, a new method, which marks a new era in media history. This is not appreciated by the public and therefore AV-media do not receive appropriate esteem, and this is especially the case in the scientific community. AV-media are not treated as information carriers of equal importance to the written and the printed word. This perception has improved in the last ten or twenty years, but the problem persists.

To appreciate that AV-media play a gigantic role in the entertainment and information industries, mass media of enormous influence, is one thing: to attribute them an important cultural role is quite another. Why is that so? As I said, the nature of our medium is not clearly understood and moreover it does not really fit into the traditional scheme of source material for scientific purposes.

What is the nature of AV-media? In my view AV-media are, intrinsically, mechanical reproductions of our optical and/or acoustical environment. They are mechanically produced mirror-images of physical processes. This sounds very technical but it really is a revolution, an entirely new development. AV-media constitute a new and revolutionary method to pass on information. Moreover, they are able to contain a new kind of information.

Let us consider the means by which one can pass on information, for instance, about a particular chair, or about a walk through a forest? You can take the chair and just show it, you can take a friend by the hand and lead him/her through the forest and show it. Then there is another method (and on this method our entire culture is based): you can describe the chair, you can report on your walk. There are many ways to do this: you can draw the chair, you can make a plan of it, measure it. You can give a factual report on your walk or you can present poetic impressions of roaming through the forest. These are different kinds of descriptions, but in all instances you have a particular view in mind which you then transfer to paper by writing it down or sketching it. Most often you have a mind view in the form of language, which is then 'exported' as writing. What you are passing on is mostly verbal information: human thoughts in form the of language and writing, these are the main features of the Gutenberg-universe.

Since the nineteenth century there is a third method to convey information about the chair and about walking through the woods: you can - with the means of machinery - mirror-image the chair and the walk. This does not mean that you can pass on more or better information than by the second method, it means another kind of information, which has its stronger and weaker sides. This is the really important thing: AV-media contain a new, very specific form of information - non-verbal information. They can also hold verbal information, of course, but this is not the point. Their real domain is the transmission of non-verbal information by mechanically mirror-imagining the non-verbal side of our world. What other medium can do that? The realm of thinking, speaking and writing is relatively small. Everything else is non-verbal,
There is much more to be said on this subject, but there is not time here, so the main point I would like to make is that in order to appreciate the full importance of AV-media one has to understand that it concerns a specific kind of information, which only it can convey. We must give credit to this capacity and give credit to that kind of information. That is the problem. Does non-verbal information really carry the same weight as verbal information for scientists or for historians, for example? I doubt it. So it may well be that AV-media will earn their appropriate place only when our cultural outlook as a whole has changed, when we will have transcended the Gutenberg-universe and arrived at a more sensual culture. There are signs that this is happening.

So much for the problem which has accompanied us from the beginning. Just now, new challenges are arising and they characterise our situation in Austria. We live in a world full of changes and this is even true in Vienna, but the main historical phenomenon of our times is the rapidity with which changes now take place. There is no parallel in history to a situation like this: the changes to society and to culture are explosive.

For media conservationists like us this means that our traditional institutions have to adopt new functions. New kinds of institutions will emerge. Our work is changing considerably within a very short period. We are on the brink of the digital era, the era of electronic digital information and its instantaneous conveyance from one point of the globe to the other.

This is not just a question of improved transport or better storage of information: the nature and role of information itself changes. Information in a globally networked society obtains a new aggregate state which is liquid instead of stable. Up until now we are used to handling information bundles and we have created a culture and society optimised to manage such bundles, to hand them over from place to place, from generation to generation. We have all kinds of working procedures to identify such bundles, to use them, to give them juridical protection and so on. The name given to these information bundles is 'work'.

We handle works - works, which we see as finished products of intellectual creation. They tend to retain more or less the form, which was once given to them by their creators, even when they change, for example, when a new edition of a book is published. We have particular rules to make this change to a work transparent. We have hallmarks such as arrangement, reprint or travesty. Librarians will define 'work' differently from jurists, but they more or less deal with the same phenomenon, the same bundle of congealed or crystallised information. A work is characterised by its form, by its owner - in our society each work normally has a known owner - and in most cases it has been created by known authors. Each work has its place in the system of co-ordinates of librarianship, archiving and museology. The book on the card entry does not change unless it is eaten up by mice or the teeth of time. A new edition gets a new card entry. For the cataloguing of books the concrete book edition lying on the table is the atom, the entity to define. In a digital environment we have to identify content, not carriers - and content is far more flexible, liquid, than carriers with their fix form.
In the digital environment of the internet, for example, historic cultural lore loses its work character. It can and will be changed continually. Culture newly produced on the internet is changeable from the beginning. Rapid change is characteristic—a kind of video-clip society. This may coincide with modern means of cognition. Is it possible that we are only able to perceive things we change? Could it be possible that we would be unable to recognise the Louvre properly without a crystal pyramid in its midst? Or the Künstlerhaus here in Vienna, an art nouveau exhibition building. A while ago it was painted fire red and left that way for some months. Then, after reverting for a short time to its original decor, it was changed again by the application of a kind of metal sculpture to its façade. This remark is not polemics, but a very earnest question for me. I associate this changeability, which may well characterise our future, with the mythological figure of Proteus, an old man of the sea, who was able to assume thousands of different shapes. We will have to tackle Proteus-like phenomena. Each website is of that nature and we are still at the beginning. We are to live in the cultural vicinity of 'works in progress'.

It may well be, that in that context even authorship, ownership and juridical protection will be eroded. Will the motto 'free of charge' characterise the virtual world of the future? I won't go into this any further, but it is a wide field. A society is conceivable, where traditional concepts lose their meaning or at least their importance.

What does this mean for us? Some consequences are clear and it is enough just to mention them:

1. It is not enough just to come up with plans for one's own institution, such as the clear-cut programme of the Phonogrammarchiv 100 years ago. It would not be rational now, because all planning has to take into consideration what other archives are doing and what is needed from a national or even global perspective. This leads to the principle of co-ordination: it is not necessary, that every archive is fulfilling every task of our profession; there should be specialising and co-operation. It is not necessary for the AV-archive of the Institute of Contemporary History to keep originals and build up a climate-controlled archive. It would be much better to hand the original media over to the Österreichische Phonothek and make copies for their own use. It is not necessary for the Phonothek to document folklore intensively, because the Phonogrammarchiv and the Volksliedwerk are doing already doing it. So, we try not to make double work for ourselves.

In this area we have been able to improve our situation, because such co-operation can be done without any external help. If the partners within AGAVA are willing—and they are—we can reach such agreements. The next step here would be, to devise jointly a nation-wide documentation and collection plan which will mean working in a network. Future AV-archives will be connected intrinsically by telecommunication. For their users there will be one interface, that is a combined catalogue and a commonwealth of recordings accessible on the internet. The different institutions may still exist, the user however may
not even know that there are different keepers behind the vast quantity of AV-media he/she can make use of.

For many years we have maintained, that one of the Austrian AV-archives should have the function of a national archive – and we still think this should be the case. But if we all really work together by means of modern computer technology, if we really become a network of Austrian AV-archives, then we all together would form a virtual National AV-Archive.

2. Collecting and archiving will change, especially the collecting of published media. The publication of AV-media may lose its connection with particular carriers. Publication by a music company will mean that the public can buy access to a computer file on the net. We already have this. Now, if we know, that the music company has a reliable digital archive, to which access is guaranteed, does it really make sense to download the file and keep it in the digital archive of, say, the Österreichische Phonotheek? Or if there are some mega-av-archives in the world, keeping more or less all published AV-media and offering access to the whole internet – is it then really necessary, to duplicate such efforts here in other archives? It may well be that small or medium-sized AV-archives and national archives of smaller countries may concentrate on local and regional niches and on non-published media.

3. This also means that the special documentation tasks of av-archives will become more important, that is the production of sources by the AV-archives themselves. The original recording will be the basis of individual AV-archives, even more than this is the case today.

4. Then there is another field of importance for us. AV-documents will be accessible all over the net, in all kinds of arrangement, variation, deformation. Even historical sound documents will be changed and adapted and again put onto the net. Our task will then be to help users to trace the original, to give help in establishing authenticity, to help explain the medium. We have to become experts in the interpretation of AV-sources: source critics – Quellenkritik –, that is a field in which we should build up expertise.

I am not going to sum up – the situation in Austria today, does not seem very different from that of the general situation of AV-archiving.
Perspectives of the present and future situation of sound and audiovisual broadcasting archives in Germany: a personal view

*Paper presented by Ulf Scharlau, SWR Stuttgart, at the IASA Conference, Vienna, 1999*

In 1965, when I was still a student, I began to work at a German radio archive. Back then, stereophony had just been established as the recording standard and sound archives started to re-produce their monophonic material. In television, those were the early days of magnetic recording. Public broadcasting in Germany had no commercial competitors. Lack of money was unheard of, as the ever-increasing number of TV spectators resulted in ever-increasing annual revenues. Not even the license fees had to be raised. Technological progress and the wealth of documented material led to the development and introduction of archive data-bases. Archives had their heyday.

This apparent archival stability changed in the mid 1980s. It turned out to be a radical change, although it started slowly and quietly with the introduction of the compact disc as a substitute for the vinyl record. With incredible acceleration digital technology has conquered broadcasting corporations ever since. Received methods of working were called into question, as well as organisational structures and staff in all fields of broadcasting: in the technical and editorial departments, and most of all in the archives. This technological revolution in the entire industrialised world can only be compared to the social revolution following the invention of the printing press five hundred years ago.

**Digitisation and programme structure**

Thanks to digitisation, radio is reborn, some people cheer: radio will go down, others predict gloomily. Only one thing can be taken for granted: radio has changed and will continue to change. The same goes for the audiovisual archives of radio stations.

We all know that the computer as a medium for recording and storing is everything but not a newcomer in studios and archives. For almost fifteen years, sound (music and words) has been recorded digitally in my institution. In broadcasting studios, and partly in archives, the computer has replaced the analogue technology of magnetic tapes. No-one is annoyed by this, not anymore. We are living and working in a transitional phase. In parts of our programmes, conventional sound carriers - tapes and CDs - are still inserted and started automatically or even manually, and tapes are still edited by a cutter. At the same time, however, more than seventy percent of the seven hundred and fifty musical items that we typically play every day come directly from the digital mass storage system. They are played from the computer, and no tapes or CDs have to be moved anymore, neither in the archive nor in the broadcasting studio.
In many of the fields of broadcasting that have been digitised so far, the new technologies have replaced outdated or complicated ways of working. This has met with approval. But now, received traditional structures are questioned. Here, worries continue to be strong among those in charge of the programmes and the archive. Editors, who still use the wealth of analogue material the archives have to offer, feel that the quality of their programmes is under threat, as digitisation in its ultimate stage can do without any analogue sources. And for economical reasons, digitisation means restriction. While there used to be hundreds of thousands of musical titles accessible in the archives (2.5 million in our archives since 1945), the range is now reduced to small pools of a few thousand digitised takes. The listener wants it that way, as media researchers would like us to believe. Not musical variety, but constant repetition of the conventional repertoire is what the listeners allegedly desire.

This is what media analysts tell us, and I do not doubt it. First of all, listeners like to hear music and in their favourite music programmes they attend to titles which they know well. They do not like to be confronted with unknown material. I think that in this respect that German listeners do not differ from listeners elsewhere. This is a pity and a disadvantage for archives which keep a huge amount of material. However, it is a fact which we have to face and to take not only into our consideration, but also into our strategies.

By reducing its expenditure, public broadcasting has exposed itself to the acute danger of levelling its programmes. But when public radio isn’t any better than its commercial counterparts, there is increasing danger that the broad public and politicians in particular raise the question whether the public radio stations have a right to exist at all. This discussion in Germany unfortunately is led - as far as the politicians are concerned - by using the hammer of radio license fees which have to be fixed by parliaments. Their provocative question is: why pay for something that can be got for free in the same (low) quality? This development is characteristic not only of Germany, but is an international phenomenon. The large variety of channels available through digitisation does not result in a large variety of content. On the contrary, digitisation is likely to lead to a larger quantity of programmes of a gradually sinking level of quality.

**Consequences of digitisation for archives**

So what does this mean for our fields of work? Digitisation and the interlinking of data networks have changed the professional profile of documentation and archival work in recent years in a radical way. The questions that we have to ask ourselves here are: what has actually happened? Has everything developed for the worse?

It is my impression that radio archives are not rapidly approaching their end and that they are not acting as their own henchmen, as some say. I believe that we can work our way towards a bright future if the strategy is right, because television and radio with their additional multi-media services will continue to influence the receptive behaviour of the audience, alongside other digital media. Uncertain, at least in Germany, is the role that public
radio can play in this field, with the strong competition from commercial stations. One prerequisite of the strategy for survival of archives is that we adapt to changing or changed fields and methods of work with commitment and imagination. How this can be done, I will try to sketch now.

Radio archives are the central area, from where all fields of activity and all methods of working within a broadcasting station can be changed, improved and accelerated through the use of modern technology. Digitisation leaves no department of work untouched. It is true that the storage of an audio or video signal in digital form represents in itself no fundamental change in the broadcasting process. At the centre of radio's new digital possibilities is the interlinking of all departments of a broadcasting station – planning, preparation, pre-production, production and transmission of a programme. The same goes for television. Only the establishment of data networks in a digitised radio station makes possible the transport of information, of audio and visual files, of texts and of all imaginable forms of additional information. Digital interlinking provides access to internal and external research and information databases. The archives are no longer tranquil islands within the broadcasting process. They have become an integral part of the system in their own right.

The received classical subdivision of archival types – audio, video, print, photography and so on – is dissolving. A digital file is a set of data whose information is reconverted into the original content. Demodulation, as this process is called, can reconver a file into sound, visual information, texts. What it cannot do is to reproduce the original form of the information carrier, be it a tape, a record, a book or a film. In other words: the traditional archive as a place where media are stored is mutating into a data store. Conventional archive formats are irreversibly replaced by data sets.

This development is consequential for the future archive structures of radio stations. The classical media no longer define the organisational structure of an archive. Instead two functional sectors will dominate: the sector of data management, the sector of documentation, investigation, research for information and the mediation of information.

**New tasks for archives**

The introduction of digitisation redefines the work of audiovisual archives. This process of redefinition is likely to continue.

In the interest of present and future radio programmes, but also on behalf of science and research, we must secure our collections, in particular our invaluable historical audio and video sources, and document them in digital form. This has to be done because radio archives do not merely store information carriers, but they collect the information itself which is stored on the carriers. As Dietrich Schüller once put it, our aim is "the eternal data set, not the eternal data carrier". Most of our important historical items have to be revised and documented and if we take into account the written documentation and television, the
amount of revision is enormous. This is because unlike music these recordings have to be explored and documented according to their visual and verbal content. In Stuttgart an outsourcing test is being conducted in which our old file cards are captured digitally and put in our database. There is need for controlled and - if necessary - updated data management for our documentation specialists. This provides our documentation staff with a wide range of tasks for years to come.

In a few years, when the entire broadcasting process of radio and television will be carried out via automatic programme planning and archive mass storage systems (kept data-reduced and simultaneously unreduced) the work flow will change fundamentally and colleagues will face more new or changed tasks. Some of these tasks have already been introduced to some extent, such as:

- organisation and controlling of data flow
- more detailed documentation
- capturing and storage of written and visual information as files (manuscripts, presentations booklets of CDs)
- increased activities in relation to data control and data qualification
- increase of activities in selection and interpretation of av-documents, not only to be seen as potential programme content, but also as sources for research on history of and developments within the cultural, political, and social life of our society.

The introduction of digitisation and capturing of sound, images, film and printed information has already led to a different kind of user behaviour in programme departments towards the archive. Practical experience shows that through new information databases and new digital technologies, the archive user receives information round the clock. He is becoming independent of opening times. These new services represent additional documentation work for the departments. By means of new technologies, parts of the research process are now carried out by documentation staff rather than by programme planners.

Television and radio programme material is significant to society and valuable to a broadcaster in a variety of ways: as source for research or as illustrative material reused for many purposes. TV and Radio Archives are mostly subject to national or European laws to preserve the cultural heritage that historical programmes represent. The broadcasting station carries out this cultural preservation, provided there is no institution on a national level for this purpose which at least today we do not have in Germany.

For technical and financial reasons it will not be possible to preserve all material to the highest possible standards in the future. Therefore the aims of selection must be defined to guarantee the preservation of TV and radio programme material as cultural heritage within the archives on one hand and to guarantee the possibility of reusing this material in the future on the other hand.
Under these conditions there must be an answer from archives and technicians to the question: in which way and with which kind of digital information must each kind of programme material be preserved in order to guarantee both the historical commitment and the possibility of re-using the material as a source of the programme? It is a question that will become more ardent than ever in the future in the face of decreasing financial resources.

We should keep in mind the fact that we have a long time ahead of us with both digital and analogue programme material, because there is no possibility of transferring all the collection material into the digital world in a short space of time. We have to make a start, but we will not start at "Zero", because there is no absolute starting point.

Costs and savings

All these measures and investments require enormous financial resources, at a time of diminishing revenues. Management is only willing to spend money when the expected savings exceed the amount to be invested in new technological solutions. Staff are particularly expensive. Investments therefore have to lead to savings on the side of personnel. This is the only criterion taken into consideration: the provision of finances for cultural tasks alone, without the prospect of a reduced work force, cannot be expected. At this point we have to be realistic. Wishful thinking will not help us.

Potential areas of saving are determined by various factors, the developments of which also challenge the imagination of the directors of archives. Some of these areas should be named here:

- savings through abandoning outdated tasks and organisational structures
- savings through new technological developments
- savings through optimising existing methods of working and the development of new ones
- savings through outsourcing of internal archives services
- savings through co-operation and division of labour with interlinked radio stations or institutions

Let me summarise what I have said so far. In the long run, the status of documentation will be enhanced through the digitisation of archives. Mass data can only be controlled if enough tools are provided in documentation. As a general rule we will have to deal with much larger quantities of data than before. To work in the documentation sector will require more time and commitment in order to care for and inform the users. The archive will turn into a qualified information centre that works together closely with the editorial and the programming departments.
Direct individual consultation with archive staff will have to be reduced. At the same time the necessary channelling of the data masses will result in increased specialist knowledge on the side of the archive staff. All those colleagues whose former tasks are now fulfilled by computers will be transferred to the mediation of information.

Questions concerning the evaluation of our collections will gain further importance for the work on documentation because digitisation will require enormous financial efforts.

Due to the multimedial extension of archive services not only radio and TV archives have to be taken into account, but also print archives such as libraries and press archives. New possibilities for the mediation of information will be generated through new sources of information such as the various external databases for press, facts and reference, the growing CD-ROM market, the internet and the digitisation of press materials. For services in the print sector this represents a higher quality, but also rising demands.

Finally, many work processes which used to dominate our archives will be changed, reduced or abandoned altogether. Other tasks, such as an increased information management, have emerged. Archivists and documentation staff in an audiovisual archive will become managers and data administrators. Jobs will partly be reduced, not only due to the advent of new technologies, but also due to conditions imposed on us by the executives. At the same time a large number of the colleagues will be introduced to tasks of a higher quality. Investment in the professional training of the staff will be of vital importance.

And more relevant today than ever before is the statement of the English writer and lexicographer, Samuel Johnson (1709-1784): “Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it.”
Sources of early ethnographic recordings in Australia

Paper presented by Grace Koch, Archives Manager, Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, Australia at the IASA/AGAVA Annual Conference in Vienna, 1999

In the year 1899, when the Emperor Franz Josef opened the Phonogrammarchiv in Vienna, Australians were creating audio documents immortalising the indigenous inhabitants of the Great South Land. In this paper, I shall describe a selection of recordings made of Aboriginal people in Australia during the fifty year period from 1899 to 1949. I shall use the term 'ethnographic' to describe these recordings made of the indigenous people of Australia. The selections will include five early collections, ranging from wax cylinders, wire, and disc to magnetic tape.

My major reference for this paper is The Handlist of Field Collections of Recorded Music in Australia and the Torres Strait, compiled by Alice Moyle in 1966. Through her excellent contacts in the sound recording industry and her devoted and rigorous scholarship, she located and documented 185 collections ranging from 1899 to 1966 of Australian indigenous music held in Australia, Europe and North America. She obtained magnetic tape copies of most of these recordings for the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), and they, along with recordings generated by grantees and scholars funded by AIATSIS, provided the nucleus of its Sound Archive. Since then, other early collections of speech, song and oral history have been located and copied. Two maps will illustrate the places where recordings were made from 1899–1939 and 1940–1949. The places where the recordings were made are in small typeface. States of Australia are indicated in bold typeface and Sydney, Melbourne, Canberra, Perth, and Adelaide are added to the map to provide reference points. (See next page)

Even though they date from one year earlier than my time frame, mention must be made of the very first ethnographic recordings from the South Pacific, which were made in 1898 by the Cambridge Expedition to the Torres Strait. These recordings have been documented by Alice Moyle in the IASA Phonographic Bulletin No 49, 1987. They were taken during the first anthropological field study in the South Pacific by a British team led by Alfred Cort Haddon who worked in the Torres Strait Islands, the most north-eastern part of Australia. Haddon shared his knowledge gained from making field recordings with others, as we shall see later in this paper.

Five principles of sound archiving emerge as we examine how some of these early collections were made. I shall highlight them as they arise.
Fanny Cochrane Smith

It is 1899, and we are moving on the map to another island off Australia, this time to the far south of the continent, the state of Tasmania. The tragic circumstances behind the recording will set the stage for these wax cylinders from the end of the century.

Since the arrival of Europeans in the late 1700's, the Aboriginal population of Tasmania had been decimated by conflict with the white settlers and by disease. In the 1830's it had been government policy to locate all the surviving Aboriginal people and send them to a single settlement. At first they were taken to Flinders Island, north of Tasmania, then moved in 1847 to Oyster Cove, an old convict station just south of the capital, Hobart. Fanny Cochrane, who was born at Finders Island to Sarah, one of the survivors, was just thirteen years old when she was relocated to Oyster Cove. She met a young timber worker, William Smith, and married him when she was nearly twenty. She and her husband moved to Hobart where, eventually, they ran a boarding house.

In 1899, members of an eminent scientific organisation in Hobart, the Royal Society of Tasmania, persuaded Fanny Cochrane Smith to speak and to sing into a gramophone on August 5. One of those men present, the Right Reverend H. Montgomery, Bishop of Tasmania, who was also Vice-President of the Society, explained the importance of the recording:

I feel very glad indeed that the aboriginal language of these islands, together with its songs, however fragmentary the results may be, have at least been permanently registered and [will be] listened to in future years, when this, and the remaining representatives of the native race have passed away. (Longman 1960: 80-81)

Our first principle of sound archiving can be seen here. The Royal Society of Tasmania chose an important historical event to be registered in sound for posterity.

After she answered questions about her early life, she sang a Dance song and a song about Spring. The text of the Dance song had been transcribed in four sources ranging from the diaries of George Washington Walker, a member of the Society of Friends who visited Flinders Island in 1833 to a vocabulary of Tasmanian words published by J. Milligan in 1859. Milligan described the song as "Aboriginal verses in honour of a great chief, sung as an accompaniment to a Native Dance, or Riawé" (Moyle 1968: I). In 1903, Fanny sang the same songs again for her friend, Horace Watson, who recorded her.

In 1959, Murray Longman, of the Tasmanian Museum in Hobart, re-recorded the cylinders acoustically, using an Edison Phonograph with a concert horn and a high-fidelity amplifier operated in conjunction with a tape recorder. Several cylinders had been broken, and a rubber base cement was used to stick the pieces back onto the cylinder. A beeswax mixture filled in the cracks and a sapphire stylus was guided through the wax to ensure a continuous groove. In 1983, a further transfer was made by Chris Long at the Tasmanian Museum in Hobart. (Canberra Times, Tuesday March 15, 1983)
Spencer and Gillen

As we move back to the beginning of the century and to an anthropological perspective, we must highlight the important documentary work of Sir Walter Baldwin Spencer and Frank Gillen. Spencer, who was Foundation Professor of Biology at Melbourne University and Director of the National Museum of Victoria, and Frank Gillen, the stationmaster at the Alice Springs Telegraph Station, travelled together on an expedition to Central Australia. Their aim was to go along the inland telegraph line stretching north to south through the centre of Australia, then to head northeast. Spencer hoped to find links with the Aborigines of the Centre and those of Queensland in the east. (Moyle, Alice 1990 : 4) Frank Gillen’s good relationships with many of the Arrernte people of Central Australia and his familiarity with their language were vital elements in making the journey a success.

They carried with them photographic equipment, a movie camera and an Edison concert phonograph, the phonograph having been donated to them. On the advice of A. C. Haddon, who had conducted the 1898 expedition to the Torres Strait, they carried wax cylinders of the maximum diameter available, taking thirty-six Edison Concert 5-inch cylinders.

A second principle of sound archiving can be seen here. Haddon, who had recorded earlier, shared some of his knowledge of successful recording techniques with his colleague, Spencer.

Before the expedition, Gillen had written to Spencer, saying “By the way, if you don’t know anything about the Phonograph get inducted into the mysteries. I shall not have an opportunity.” (Mulvaney 1997: 316). The “induction into the mysteries” consisted of some advice by Haddon on what diameter of cylinder to use, but nothing specific to the working of their particular machine. Neither man had a chance to try out the recorder until 22 March 1901 when they managed to put it together successfully and to record several songs, place names in language, and some sentences.

After they recorded each song, they played them back to the amazed Aboriginal audience. Spencer and Gillen kept the recorder for only two weeks because they feared the field conditions would prove dangerous to the machine and the cylinders. In spite of careful packing, eight out of the thirty-six cylinders were broken during the return journey. Spencer and Gillen used these recordings later on when they presented lectures, making copies on smaller diameter cylinders.

In 1912, Spencer made another series of recordings in the north of Australia, in Katherine and in Bathurst Island. When Spencer visited England in 1914, he requested that Myers, who had been on the Haddon Expedition in 1898, make copies of the cylinders which he had brought with him. They now are held at The British Library National Sound Archive and were transferred to magnetic tape for AIATSIS in 1978.

A third principle of sound archiving can be seen here: make safety copies and store them apart from the originals.
Expeditions sponsored by the University of Adelaide

Another important Central Australian study, this time centred on music, was the work of E. Harold Davies, Elder Professor of Music at the University of Adelaide. The Board of Anthropology at that University sponsored a number of expeditions, and Davies accompanied it off and on from 1926 to 1929, making sound recordings. The 1926 expedition was mounted in the torrid heat of summer in January. (I notice that the other trips were in the much more bearable August). Davies provided notations and full musicological analyses of the songs.

During a celebration of the Centenary of South Australia in 1936, he gave a short lecture about Australian Aboriginal music from parts of Central Australia during a broadcast for the ABC:

As a part of this historic broadcast, I have been asked to draw for you a tiny picture of the Australian Aborigines, our predecessors.... I would like to tell you an incident of our first expedition to Central Australia. Camped one night in a river bed, surrounded by blacks, I sought to test their reactions to various kinds of music. The camp gramophone was set going, and to dance and jazz records they remained quite indifferent, almost bored. But when I played a beautiful Elizabethan song, they were curiously moved and one old man who could speak a little Pidgin English kept whispering to me, "Hearim that fella again. Hearim that fella again." (transcribed from ABC broadcast, 1936. AIATSIS Archive tape 13839)

The other major collection of sound recordings generated by the University of Adelaide expeditions were those of Norman B. Tindale whose tapes, films, photographs and manuscripts form a central part of the holdings of the South Australian Museum in Adelaide. His work centred on mapping the tribal boundaries of Aboriginal groups throughout Australia, and during the course of this work, he recorded indigenous songs and some word lists from South Australia and Queensland. He collected scientific and ethnographic data from the 1930's to the mid 1960's. The recordings he made from 1931-1940 were from Central Australia, the coast east of Adelaide and the northwestern part of New South Wales. The massive amount of songs he recorded and the precise documentation of most of them provide a fertile field for musicological, linguistic and anthropological research.

From 1937 to 1940 he recorded songs and speech from a number of people from the Coorong area of South Australia. The singer, Clarence Long, performed a remarkable set of songs for Tindale in 1937 covering such topics as forcing a widow to re-marry, "growling" or scolding, whales seen off the coast of South Australia, and songs describing a quarrel between two tribal groups from the area.

The long time span of his work required that he record on three media: wax cylinder, wire, and magnetic tape. Now follows a cautionary tale. The South Australian Museum transferred
all Tindale's original recordings to magnetic tape in the early 1980's and security copies of
these were made in 1986 to be stored in the AIATSIS Archive. Unfortunately, the Museum
copies deteriorated within about six years and developed a high-pitched whistle; thus the
AIATSIS copies are now the best quality copies.

This situation emphasises the importance of the third principle of sound archiving
mentioned in Spencer' and Gillen's collections: safety copies must be made. Tindale
documented his recordings meticulously, publishing transcriptions and commentaries on his
recordings in the Proceedings of the Royal Society of South Australia and keeping detailed
diaries and field notebooks. He exemplifies a fourth principle of sound archiving: recordings
should be documented carefully and systematically.

Other researchers made significant recordings during this time. A link with Vienna comes
with Geza Roheim, who was the first ethnologist to use a psycho-analytical framework,
including the analysis of dreams, in studying culture. One of his mentors was Sigmund Freud,
thus providing us with this link. He recorded Arrernte people at Hermannsburg Mission in
1929 in Central Australia. The earliest Australian ethnographic recordings made by a woman
were those of the anthropologist Ursula McConnel, who made cylinder recordings of myths,
songs and information on the kinship structure of the Wik-Mungkan tribe in northwest Cape
York, Queensland in 1934. Another expedition of note in 1948 was the American-Australian
Scientific Expedition to Arnhem Land, led by Charles P. Mountford, who made wire
recordings in 1948 at Groote Eylandt and Delissaville, outside of Darwin, NT. Many if not
most of these recordings were of music. (Moyle 1966: 20, 28)

Prof. A. P. Elkin

The last major collection that I shall describe from this period was organised by Professor
A. P. Elkin. While he had done his anthropological fieldwork in Arnhem Land from 1946-48,
he was

"impressed by the variety and vitality of the Aborigines' chanting and dancing. Therefore,
since the improvement and mobility of recording instruments made faithful results possible in
out of the way places, I organised 'expeditions' in 1949 and 1952, under the auspices of the
University of Sydney, to make recordings there, as well as to continue other anthropological
research." (Elkin and Jones 1965: 1)

Funding came from sources as diverse as the Australian Broadcasting Corporation and the
Stamina Clothing Company, whose products must have come in handy on the trip to the
fetid north. The recordings were transferred to twenty-nine master discs and later released
for sale to the public.

A fifth principle of sound archiving comes in here. The recordings were copied on to a more
stable medium. The original wire recordings were transferred to disc.
Although Elkin did not take a musicologist along on the trips, he found funding to enlist the aid of a young musicologist and conductor, Trevor Jones, in notating and analysing the songs recorded on the expeditions. Jones produced a "complete record-by-record commentary to be read in conjunction with the textual analyses and background notes by Professor A.P. Elkin" (Elkin and Jones 1965: 178), music notations, and analyses of song types and instrumental and vocal techniques. The combined work of the two scholars created one of the earliest and most valuable resources on Arnhem Land music. Elkin and other scholars on his expeditions, such as the linguist Arthur Capell and the anthropologist N.W.G Macintosh, became leading lights in the establishment of the Australian Institute of Aboriginal Studies.

In conclusion, we see that sound archiving principles arose for all of these early collections. They were:

1. recognising the importance of recording important events so that future generations can benefit;
2. sharing knowledge of successful techniques of recording so that the best quality material may be generated;
3. making security copies of important recordings and storing them separately from the originals;
4. documenting each recording carefully and systematically;
5. transferring recordings to the most stable carriers.

As we, together with the Phonogrammarchiv, look back on a century of sound archiving and forward to the future of our profession, these same principles still hold true.

References
Between digitisation and mass storage: system structures in digital archives

Paper presented by Stefan Hoffmann, IBM Industry Consulting & Services - Media Solutions, at the IASA/AGAVA annual conference, Vienna, 1999

'Digitisation' and 'mass storage' are very common expressions used in today's discussions about audio archives. 'Digitisation' is mainly used to describe the conversion of analogue audio material into a digital format which typically builds the start of a process chain. And 'mass storage' is the generalised expression for a system that is able to store a large amount of digitised audio.

But digitisation and mass storage systems do not add value by themselves. It is the way these technologies are used that adds the value. Such values can include easier access to the audio, more flexible usage of the audio information, new ways of integrating processes and systems, automated and better quality control of the archived material, etc. So if we have digitisation on one side and mass storage systems on the other, a major question is: what needs to be considered in order to gain these values from a digital archive system?

When discussing audio archive issues, a clear distinction must be made between the preservation of technology and the preservation of information. Preservation of technology mainly concentrates on how things were done, i.e. preserving carriers and equipment and keeping those systems up and running. The focus is on the physical medium itself. Preservation of information concentrates more on what happened, i.e. saving the information, the content, where the format and medium does not matter as long as the quality of the information is retained. The focus is put on the availability and accessibility of the information. This concentration on the information itself is a major requirement when considering and evaluating audio archive systems, digitisation processes and mass storage systems.

We also need to distinguish between two separate sources of problems in sound archives: technology-oriented problems and process-oriented problems.

Examples of technology-related problems are:
• the physical/chemical deterioration of tapes (or other sound carriers), which results in unrecoverable loss of audio content;
• outdated technology, which increases the resources required for maintenance;
• or incompatible carriers, that require a large number of different devices to be maintained;
• quality decrease during analogue copying, which limits the number of copies that can be made and therefore obliges archivists to keep the original as long as possible - which then results in having to save the medium instead of saving the information.
Examples of process-related problems are:

- real-time copying and transfer of audio signals, which is a time consuming process;
- a lot of manual or semi-manual handling is required, which typically is not efficient and increases the risk of handling errors;
- high standards for the storage areas in terms of size and environment (temperature, humidity).

The establishment of a valuable digital audio archive system needs to address and to reduce more than just one of these problems: the more widespread the reduction of these problems, the better the total result. Focusing on specific aspects alone might lead to a localised optimum solution, but keeping the whole system in mind increases the chances of arriving at a global optimum.

The analysis of the changes involved in moving to digital recordings from analogue recordings shows that there are some positive effects on the technology side, but the overall effect is rather limited. The major change is that once transferred to the digital environment, copies can be made without any loss of information. But working with digital sound carriers still requires a lot of manual handling, even if some of the steps are easier to take with CDs or DATs. Real-time signal transfers and handling of physical carriers are still limiting factors. As long as physical carriers need to be stored and handled manually, there will be a focus on the physical medium itself, which distracts us from focusing on the information, and the increased longevity of optical sound carriers (e.g. CD) is minimised by the shorter technology cycles which typify the digital world in which playback devices quickly become obsolete.

Most of the remaining problems are not related to digital technology itself, but to the dependence on physical carriers. So a key action seems to be to unbind the information from a specific physical medium or storage device.

The paradigm shift of unbinding the audio information from sound carriers is done by moving to digital audio files. While in one respect nothing changes with the need to listen to a recording in real time, in most other respects everything changes. Handling audio as another type of data means that data management principles can be applied to optimise the handling of audio files. A number of advantages follow from this. Files are media independent and can be stored on different storage formats. Access to the physical carrier is no longer necessary: it can be done directly via networks. Multiple users can work with the same material at the same time without the need to create physical copies and to transport them. The amount of manual handling is reduced. And as an audio file is primarily seen as data, the time component can be made irrelevant when accessing or transferring audio data. This means that non real-time transfers are possible. Typically this will be used to transfer audio data over high-speed, broadband networks in less than real-time, but it also allows us to utilise slower and lower capacity networks for moving high-quality audio in more than real-time. The use of audio files also enables us to benefit from other typical high volume data management technologies, like automated storage systems (mass storage systems) and...
automated file correction. These are standard facilities for computer files, while their application to sound carriers is much more complex.

So the major step on the way to a valuable digital audio archive is not the step from analogue to digital, but the step from sound carriers to sound files, re-focusing on the information itself and not its physical representation.

With the change to audio files and to handling audio as data, other advantages typical of data mass storage systems can be enjoyed. Already mentioned was the obvious advantage of automated access directly via networks to a huge amount of audio files. Another major advantage is that the same storage device can handle different types of data. In a sound archive this might be the linear audio version as well as one or more data-reduced or compressed versions and may even include accompanying image and text files. All this information can be stored in one storage system: separate devices and arrangements for each type of information are no longer required. On the other hand, the same application structure can be used with different types of storage media, to support specific storage requirements.

Even more advantages can be obtained by using cross-industry systems - i.e. systems that are applicable to different industries. These systems do not only support the specifications of one industry but typically support the highest specifications of all industries. While most industries are content with ensuring a reliable seven-day round the clock operation, the safety (and security) standards of the finance and insurance industry are extremely high. This forces very high standards for quality control on data, storage media and storage devices in order to avoid any loss of data. Such functions are supported by sophisticated automated backup and data duplication features. Sound archives can gain from these high standards by using the same systems to store audio files. And they can gain from a broader spectrum of different systems as well as a broader availability of support for standard cross-industry systems.

This then means that if there are various mass storage systems on the market, all of which fulfil the main requirements, the deciding factor will depend on the capability of the mass storage system to integrate with the total system environment, its openness and flexibility to be available for current and future scenarios as well as the for the scalability of the complete system structure.

To resume this discussion so far, it is acknowledged that digitisation itself is not a key factor in establishing a digital audio archive. The key factors are: the shift to digital audio files; and the procurement of a mass storage system that is supported by an open system structure. But is it worth having a file-based system that can store hundreds of thousands of audio titles if I am unable to find a specific file in that system? Of course not. A digital audio archive is therefore not just about transferring historically important audio into sound files and storing them in a mass storage system; it is also - and I would say, mainly - about building a structure
to organise data and make it retrievable by all users inside the organisation and possibly outside the organisation as well.

The storage of audio files does not have a value in itself. The value is in retrieving the files and using them. So there is a major advantage to be gained by integrating the digitisation functions and the mass storage functions into a more complete system structure with data organisation, search and retrieval functions as well as optional distribution functions. Such a system is usually called a Content Management system, or a Media Asset Management system, in which the emphasis is on the management and effective usage of the data, not on the storage or archiving of the data.

If the content management system becomes a key component of the sound archive then it will form the basis for all other system decisions. But this means that it requires serious consideration to be given to the concept, structure and functions of such a content management system. When establishing a content management system, a major factor in the decision making process will be the archive’s current infrastructure. Of particular importance in this respect is the need to try to integrate the system with any existing database application containing descriptive information about the audio. Sound archives, typically those attached to broadcasting organisations, have often established sophisticated database applications for managing their physical archives. These applications are typically optimised for the organisation of specific kinds of archive and provide a wide range of functionality in support of search and retrieval. Re-building these functions in a new content management system would require a major effort, so the best and most useful approach must be to keep this existing infrastructure and enhance it with an add-on application that performs the tasks of ingest, linkage and management of the audio files. Located on the existing system will be the user interface and all documentation-related functions such as the entry of new data or the searching for documents, while on the new system will be located the functions for managing the audio files (and possibly the accompanying images and text). This extension of the existing archive database application makes it into a content management system with all the advantages discussed earlier. The add-on application should be implemented as a real extension to the existing system, with the current archive database as the master application and single database. The audio management application part should not duplicate the archive database to provide its own search capabilities. This would destroy most of the advantages of keeping the existing application and add complexity through the need to synchronise the databases.

There will be other archives where there is no existing archive management application. In such a situation the approach will be to acquire a content management system comprising a descriptive document database and an audio file management system. The user interface, search capabilities and other functions will depend fully on the new content management system.
So a basic and initial decision to be made when establishing a content management system will depend on the availability (or non-availability) of an archive management application which should form the core of the content management system.

But there are a number of other aspects to be considered when establishing a content management system. Attention must be given to the openness, flexibility and scalability of the system. It is not enough to have a system that fulfills the current requirements. New types of data and new formats will appear in future and storage requirements will increase over time. Therefore a content management system needs to be able to handle any file types, even those that might be defined in future. It also needs to be open in its support of storage devices. New storage devices with higher capacity and faster access must be supported without changing the basic setup and the application layer. Additional functions must be able to be implemented as extensions without changes to the basic application concept. And last, but not least, the content management system needs to provide open interfaces that permit the accommodation of a range of varied digitisation, editing and production tools into the sound archive. Tools from different vendors must be supported and the descriptive and audio data must be managed in a way that it can be accessed by all systems.

The concept and architecture of the content management system has a major impact on the value of that system in the future. Changing the requirements or revising decisions about storage technology or digitisation systems are not major problems if the system structure is open and flexible. While the sound archive system must support a safe and secure long-term storage of the data, its concept must provide flexibility for consistent changes and updates for future functions and technologies.

In conclusion, the selection of the right digitisation systems and mass storage systems - as well as editing stations and other production tools - is a major decision for a sound archive. These systems will be subject to frequent changes and replacements due to new technological developments. Choosing the right content management system is the key to ensuring the long-term value of the sound archive. It should not be optimized for one specific application but must be open and flexible enough to adapt to the evolutionary changes in mass storage and digitisation systems generally.
Minidisc for field recording? Applying archiving principles to data gathering

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Abstracts

Recently, with the spread of MiniDisc recorders, sound archives have been confronted with an increasing number of scholarly field recordings and oral history interviews made on MiniDiscs. The IASA Information Bulletin (no. 27/1998) reported on the Millennium Memory Bank, a major recording project using MiniDiscs. It also published a report by Peter Copeland of the British Library National Sound Archive on using MiniDiscs for field recording. During the IASA Annual Conference 1998 in Paris, concern was expressed from several sides about this development. By summarising the development of audio data reduction and the response from audio archivists to that development, this paper argues strongly for applying generally accepted archival principles also to the part of deliberate and planned data gathering.

The early nineties saw a new development in the field of transmitting and storing digitised audio signals: data reduction, or - as it is often incorrectly called - data compression (1). The intention behind this new development was, in the first instance, to search for new ways to make high quality listening digital audio broadcasting (DAB) possible at comparatively low data rates. This would permit a large number of broadcast channels without occupying too much scarce broadcast bandwidth. Another application for data reduced digital audio was - and still is - transmission of audio and multimedia content over networks. Storage of data reduced audio signals was also a tempting thought at that time, taking advantage of their reduced storage potential.
Transmitting audio signals without (significant) loss of audio quality at reduced data rates is possible, because humans cannot perceive every detail which is present in a complex acoustical signal. Strong partial tones of the spectrum mask weaker ones in their vicinity. If, therefore, by using highly complex algorithms only the perceived parts of an acoustical signal are transmitted, stored, and replayed then - theoretically - listeners experience the same impression as if the original full signal reached their ears. Based on the principles of psycho-acoustics, such algorithms are also known by the term perceptual coding. Audio jargon has also coined the term codec (from COder - DECoder). The audio signal is first coded, and then decoded. A coder and a decoder form a CODEC pair. The widely used term data compression is misleading, because the principle is based on the reduction of the data stream: superfluous data are indeed 'thrown away' and cannot be recovered by decoding, often erroneously called decompression.

Digital signal processing permits a number of possible ways to reduce the data stream of an audio signal at various grades of complexity without causing significant deterioration to the perceived audio quality. At the end of the eighties and early nineties, a number of efforts were made to develop and introduce data reducing algorithms. Several such developments were brought together and standardised as the ISO MPEG audio family. It is structured in three different Layers (Layer I, II and III) with increasing complexity and increasing reduction rates. Layer I was used for the digital compact cassette (DCC), which was unsuccessful on the market. Layer II is employed for digital audio broadcast (DAB), and Layer III was developed mainly for high quality network transmission. Most recently it has become popular under the acronym of MP3 in the internet distribution of high quality audio signals.

Outside the MPEG family several other codecs of perceptual coding have been developed and marketed. One is the AC family of Dolby, used for video sound tracks in American television broadcasting and on DVDs for the American market. Another is ATRAC developed by SONY for the MiniDisc (MD). Finally, for internet applications, RealAudio, with very low bit rates, is widely used. While the MPEG and AC families are aiming to achieve the same, or almost the same, listening qualities as a linear digital signal (as used for audio CDs), SONY did not intend to introduce MiniDisc as a competitor to the CD. The MiniDisc was intended only as a replacement for the analogue compact cassette. RealAudio was not developed with the intention of maintaining full audio quality.

Looking at the MPEG and the AC codec families, they seem attractive at first. Indeed, extensive listening tests have proved that replay quality matches very closely the quality of linear, unreduced signals. In critical cases, however, careful listeners are able to notice subtle differences.

Under these circumstances it was tempting in the early nineties also to discuss the use of data reduced signals for archiving. Why should precious storage capacity be wasted if the same results could be achieved with just a fraction of the original data quantity?
Although some codecs work quite satisfactorily for listening purposes, the unavoidable imperfections are the reasons for difficulties arising in the following situations:

- Cascading. This means a multiple coding/decoding procedure in series. It will cause audible defects after a number of successive cycles, depending upon the amount of data reduction and the complexity of the signals.
- Using different codec families within successive coding-decoding processes may cause additional audible defects.
- Post processing. This means the filtering or the mixing of two or more data reduced signals. Depending on the composition of the signals involved and the mixing and/or filtering processes used, audible deterioration may occur.

It must be noted that a data-reduced recorded signal represents what is perceived by the human listener. The recorded signal is not a representation of the original acoustical signal. Also the decoded and replayed signal is not a representation of the original sound that was present in the air at the time of recording. It is only perceived as such by humans if the processing is of high quality and is performed correctly. Therefore, any evaluation of the original acoustical signal is impossible on the basis of data reduced signals. Such evaluations, however, are now part of an increasing number of scholarly investigations in various fields e.g. musicology, organology, phonetics, forensic investigation or noise measurement for environmental purposes. None of these can be carried out in the full sense, because the content of the original signal has not been fully recorded. Furthermore, it should be noted, that wildlife recordings would only replay the impression humans have of wildlife sounds, and not what the animals actually produced acoustically(2). Because the psycho-acoustic algorithms are tailored to humans the data-reduced recorded sounds may not be perceived as correct by the animals themselves.

Finally, it has been argued that with increased training to listen to data-reduced signals, the threshold of accepting imperfections will become lower. This could lead to different, more critical results in listening to data-reduced signals with future generations.

Faced with this new development, the IASA Technical Committee examined the situation in the course of the IASA Conference in Canberra, September 1992. It was unanimously agreed that data reduction was a strong and viable instrument in the dissemination of audio signals. However, because of the limiting factors for future use beyond mere listening, its use for archiving was strongly discouraged. Apart from all considerations related to the integrity of the audio signal a supporting financial argument is the fact that the costs of storage space in sound archives only amount to 5-10% of the overall running costs. Smaller storage areas, by using data reduction would, therefore, have little effect on the total costs of sound archiving.

At the Tonmeistertagung in Karlsruhe, November 1992, data reduction was one of the major topics. While its developers at that time argued firmly for its use for sound archiving, IASA TC members and others started to argue against this intention. The campaign for unreduced
audio archiving was also systematically brought to the AES conventions during that period, where strong arguments were raised from the Archival Working Group of the ARD, the German broadcasting station. IASA discussed the issue again at length at its Helsinki Annual Conference in 1993. Around the mid-nineties, there was a broad consensus even amongst many broadcasters that any savings achieved by using data reduction in sound archiving would not compensate for the prejudice to the future use of audio signals. Archivists proper concluded that the employment of data reduction in sound archiving was simply against archival principles. Data-reduced signals should only be acquired and stored in archives if they are not otherwise available. All other audio signals should be stored in an unmodified linear form. Even those who, three years before in Karlsruhe, had fought for the use of data reduction in sound archives had by that time joined the archivists' arguments. These principles, *inter alia*, were codified in the Recommended Strategy of the IASA Technical Committee IASA TC-03. Of great assistance in the argument for unreduced, linear audio archiving was the fact that the price of storage capacity has dramatically decreased over the years, and continues to do so.

In daily life, beyond archiving, data reduction was introduced more slowly than anticipated in the early nineties. It is only today that DAB (digital audio broadcast) is being introduced after some years of delay while - with the great advancement of the internet - data reduction for transmission is widely flourishing (RealAudio and MP3). The introduction of data-reduced recording formats also lagged behind expectations. The DCC format did not get off the ground. The MiniDisc (MD) has gained some acceptance, both as a replication format for the music market as well as a recording format in the form of magneto-optical discs. There are also some developments for data-reduced recorders for radio purposes (interviews etc.) mainly using MPEG Layer II. Their general acceptance by the market, however, has yet to be seen.

With the success of MiniDisc recorders, fieldworkers of all disciplines including radio reporters are tempted to make use of the inexpensive, easy to use, and reliable devices for original recordings. Consequently, sound archives are faced with original recordings which have been produced by using data reduction. While archives, as a matter of principle, will accept sound recordings for archiving in a data-reduced format if they are not otherwise available, archival principles are violated by deliberately employing data reduction, when archiving is the aim of the recording project from the outset. The main argument for the use of MiniDisc recorders is a financial one: equipment and blank discs are inexpensive.

At first glance the price argument seems, indeed, convincing. Portable MiniDisc recorders cost around US $400, and blank discs are available for a few dollars. Comparable Walkman type R-DAT recorders, which record the full unreduced signal, cost US $7-800 and the tape is slightly more expensive than the blank MiniDisc. Looking more closely into the matter, however, any judgement based solely on the price of equipment and media turns out to be very superficial. The overall costs of the recording project must be considered, starting with ancillary equipment such as microphones. The running costs such as batteries and
maintenance have to be included. Travel costs have to be taken into account, and the time invested for preparation and implementation of a given recording project. It should also be kept in mind that it is not only the time spent by the researchers and fieldworkers, it is also the intellectual and emotional involvement of informants, participants, artists etc., and their time, that have to be taken into consideration. If all these factors are taken into account it becomes clear that any financial saving achieved from the lower costs of the recorders in the case of MiniDiscs are insignificant.

Whenever recording projects are undertaken to gather unique source material for archiving and later evaluation, such projects must keep to archival principles of using unreduced, i.e. linear, recording formats. This principle should equally apply to phonographic fieldwork in the linguistic, musicological, and anthropological disciplines, and, of course, to wildlife recording, keeping extended frequency ranges of animal sounds in mind. It must also apply to oral history projects, their general importance having been recently (1999) underlined by Robert B Perks, curator of oral history at the British Library National Sound Archive. Although primarily aimed to capture the mere content of narratives, it should be kept in mind that oral history recordings are important socio-linguistic sources, which will give future generations of researchers an excellent insight into how we speak, pronounce, and phrase in our daily use of the language. Hence, even if elaborate evaluation such as sound analysis is not the purpose of such projects today, and may presently seem beyond the scope of the further use of the recorded material, it can be taken for granted that such recordings will in future also be of great value to generations of linguists, psychologists, and others. Such future users will be most grateful to have an audio signal which will best serve their aims.

In summary, the production of new recordings destined for archiving must logically be subjected to the same principles that apply, by unanimous consent, to the archiving of already existing sound materials. New recordings must be produced to the best technical standards of our time, thus keeping the material viable for future use and research in the widest possible way. We should bear in mind that future generations will ask questions and will apply research methods, which may well be beyond our present imagination.

Notes

1 For a more detailed technical description and related literature see Schuller 1993

2 Normal audio recorders, analogue of linear digital, are, however, also insufficient for the recording of the sounds of those animals which produce spectra below or above the frequency range of humans.

References


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The IASA Cataloguing Rules: a manual for the description of sound recordings and related audiovisual media

Final report and demonstration on behalf of The IASA Cataloguing Rules Editorial Group, by Mary Miliano, Convenor. Updated from the presentation to the IASA/AFAS Conference in Paris, November 1998

The IASA Cataloguing Rules were published in September 1999, and are available electronically at <http://www.llgc.org.uk.iasa/> and from IASA as hard copy.

Acknowledgements, background, and main activities

Many individuals and organisations have generously co-operated to bring The IASA Cataloguing Rules to completion. First I would like to thank the IASA Board, in particular, past presidents Gerald Gibson, James McCarthy and Sven Allerstrand, for encouragement and support during the life of the project; each member of the Editorial Group for their personal commitment, contribution of professional expertise, skill and knowledge, hard work and co-operative team spirit throughout the whole process; early participants in the Editorial Group for their commitment and contributions; the Editorial Group members’ institutions for their encouragement and support; all respondents to the January 1998 Draft for Comment; all our IASA, institutional and external professional colleagues who generously provided assistance and advice; Kathrine Whatley at the British Library Corporate Design Office for her design of the cover and title page; Sara Weale, Iestyn Hughes and the National Library of Wales for their work and support in releasing the draft for comment and final publication electronically through the IASA website; the Statsbiblioteket in Aarhus for their beautiful and robust printing of the hard copy version of the publication; and all copyright owners for their kind permission for us to reproduce or adapt sections of text from their works. Also, special thanks to Olle Johansson of the ALB for his work as secretary for the Editorial Group, his tireless and patient preparation of drafts for comment at various stages of the project, and for his excellent work to amend, format and prepare the final text for publication.

In 1992, the IASA Board envisioned the IASA Cataloguing Rules and requested that the IASA Cataloguing and Documentation Committee investigate the possibility of carrying out that vision.

A one-day pre-conference seminar was held in Helsinki in 1993 to explore the feasibility of the Board’s request and to consider what would be the most suitable approach for this work. Agreement to proceed with a work compatible with the Anglo-American Cataloguing Rules. 2nd ed (AACR2), and with International Standard Bibliographic Description (Non-Book Materials) (ISBD(NBM)) was taken at that seminar and the Editorial Group was formed.

Members of the Editorial Group were Olle Johansson, Secretary (Arkivet för ljud och bild, Stockholm), Danièle Branger (Bibliothèque nationale de France, Paris), Chris Clark (The
British Library National Sound Archive, London), María Pilar Gallego (Biblioteca Nacional, Madrid), Frank Rainer Huck (Saarländischer Rundfunk, Saarbrücken), Elsebeth Kirring (Statsbiblioteket, Aarhus), and Mary Miliano, Convenor (ScreenSound Australia, Canberra).

Additionally Lasse Vihonen (Yleisradio, Helsinki), Harriet Harrison (Library of Congress, Washington, D.C.), Dr Helga Thiel (Phonogrammarchiv der Österreichischen Akademie der Wissenschaften, Vienna), Dr Armgard Schiffer (Steiermärkisches Landesmuseum Joanneum, Graz), and Dr Rainer Hubert (Österreichische Phonothek, Vienna) participated in the early work of this project.

With the support of IASA and our institutions, we held seven working meetings and prepared, circulated, commented on and edited numerous drafts of each chapter during the life of the project.

In January 1998 a Draft for Comment together with a questionnaire was circulated internationally via IASA's website, and in the form of 132 air-mailed hard copies.

Thirty-three responses were received from persons in fourteen countries, and sixteen respondents returned a completed questionnaire. Many of the comments and recommendations made in these responses were incorporated into a new draft, and members of the Editorial Group undertook a comprehensive Quality Assessment of this version.

Following the final pre-conference working meeting in November 1998, in Paris, where the Quality Assessment results were discussed, further edits and comments were made. The final version was completed and delivered to the National Library of Wales and the Statsbiblioteket in Aarhus for electronic release and publication as a hard copy respectively, on 13 August 1999.

**General scope**

The IASA Cataloguing Rules are designed to harmonise with the Anglo-American Cataloguing Rules - 2nd ed., and the International Standard Bibliographic Description (Non-Book Materials), and to be able to be used in MARC or other cataloguing systems.

They address cataloguing issues additional to AACR2 for sound recordings, and the natural extensions of recorded sound into other audiovisual media. Briefly, the additional issues are: cataloguing of unpublished and broadcast recordings; emphasis on copyright (chapter 4); analytic and multilevel cataloguing (Introduction and chapter 9). Guidance for item/copy level information is also included (chapter 10). Appendices cover the concepts of fonds and collection level cataloguing, provide full cataloguing examples, list terms for describing the physical condition of sound recordings, and include a glossary and a bibliography.
It is well recognised that many different countries and different institutions have already established methods, standards, norms, and rules for cataloguing their sound and audiovisual collections and these works are appropriate to the needs of those institutions and their clients. The IASA Cataloguing Rules are not intended to replace these existing standards. The feedback to the Draft for Comment, though, confirmed that where institutions already have standards, our work has the potential to offer new ideas and solutions which could be adopted or adapted in these institutions. Similarly, for institutions establishing cataloguing systems this work may also be adopted or adapted in part, or adopted fully.

The Editorial Group consulted a variety of cataloguing manuals and rules additional to AACR2 and the ISBD(NBM). Relevant sections from these sources are included, expanded, developed or used as the basis of rules in the The IASA Cataloguing Rules and have been duly acknowledged.

The IASA Cataloguing Rules, however, do not extensively duplicate pre-existing manuals and rules. Where more in-depth guidance on cataloguing other related audiovisual media is available from other cataloguing rules and guidelines, we have indicated that cataloguers should consult these works.

The IASA Cataloguing Rules' primary focus is the cataloguing of sound recordings. It aims to address cataloguing problems, and to present solutions and concepts in particular for the content and physical description of:

* audio formats (published, unpublished, and broadcast);

* moving image formats, where these could be considered a natural extension of audio formats (e.g. music videos, musical performances on laser disc), or related to audio (e.g. simultaneous FM radio and television broadcasts; and

* electronic resources (e.g. interactive CD-ROMs, audio content in jukeboxes and mass storage systems)

Special emphasis is given to necessary and appropriate information for different types of content of sound recordings and related audiovisual materials as identified above.

Options and alternatives are presented to assist archives and libraries in deciding on the most suitable approach to cataloguing their collections, in order to meet the requirements of public service and archival imperatives.

Also, the emphasis of our work is to show how data may look as an output rather than as an input. Therefore the concepts and issues addressed here may be freely applied or adapted either in part or in full to any automated system and indeed even if automation is not available.
Note that while 'audiovisual' means sound recordings, moving and still images, this work does not cover paper-based media, while moving image has limited coverage only.

Indexing is not addressed. Indexing may be made to a greater or lesser level of specificity by an archive or cataloguing agency, depending on the information retrieval requirements of the institution and its users. There are many institution specific, regional, national and international standards and resources to assist and guide in indexing with both names and subjects.

The IASA Cataloguing Rules are designed for use by sound and audiovisual archives as a guide for cataloguing; and as a standard for the exchange of cataloguing information about sound recordings and related audiovisual media.

Therefore, The IASA Cataloguing Rules clearly confirm the same layout and structure for data in a catalogue record, regardless of the intellectual content of the material or the physical form in which it is presented. In its most basic application it shows how cataloguing information for published, broadcast and unpublished materials may be handled in a single catalogue system or single data base. This approach for archives and cataloguing agencies would assist in ease and efficiency of management, maintenance and retrieval of descriptive information about all audiovisual collections held. Chapters 1 through 8 broadly outline this data structure, as may be seen in the materials list from The IASA Cataloguing Rules below:

Introduction
0. Preliminary notes
1. Title and statement of responsibility
2. Edition
3. Publication, production, distribution, broadcast, etc., and date(s) of creation
4. Copyright
5. Physical description
6. Series
7. Notes
8. Numbers and terms of availability
9. Analytic and multilevel description
10. Item/copy information
App. A Fonds and collection level cataloguing
App. B Examples
App. C Terms for describing the physical condition of sound recordings
App. D Glossary
App. E Bibliography

The Introduction provides a broad history of recorded sound and introduces concepts which are important to understand when cataloguing sound recordings.
0. The Preliminary notes include such information as scope, purpose and use of The IASA Cataloguing Rules, and briefly discuss and cite complementary and useful sources for in-depth cataloguing other related media. Sources of information for developing a description, and the order of data elements and punctuation to be used, are set out here.

1. Title and statement of responsibility includes rules to transcribe title and key names related to the material being catalogued. Guidance is given for supplying devised standardised or descriptive titles when these are required and includes the formulation of titles for broadcast news, advertisements, field recordings, oral histories, recordings of traditional societies and ethnic groups, bio-acoustic sounds and wildlife, sound effects and mood music, musical works and improvised music. Edited recordings, excerpts, incomplete recordings are also included as is the titling of broadcast series; and items without a collective title.


3. The Publication, Distribution, etc. area has been extended to include place, name and date information for produced and broadcast materials, and date(s) of creation for unpublished materials.

4. Copyright is a new area and addresses the documentation of copyright information especially where this would be additional to information given in the previous area. It includes discussion of mechanical rights for music publishers, recording rights for record companies, and performer rights, broadcast rights, information relating to copyright and (p) notice. The ‘ownership’ of material from traditional societies is also documented here.

5. Physical description. This is normally the area where information is given to indicate the extent of the item (number of carriers), format, duration, replay requirements and speed, whether the recording is digital or analogue and the size of the carrier(s). Here we have also included lists of some of the more specific types of formats likely to be held by sound and audiovisual archives.

Additionally we have recommended more detailed information, beyond that indicated above, be given in the notes area. This may include specific information pertaining to digital recordings, and/or such information as the condition and sound quality of the recording, and details of any preservation or restoration treatment.

6. Series. Here the series and number within the series is recorded. Broadcast series and episode number or broadcast date are also included. Guidance on documenting collection names and series in collections when appropriate, is also provided.
7. **Notes.** This is an extensive area with guidance for noting information of over thirty different types. It includes, for instance, system requirements for electronic resources; language of the material; contents listings, and short and long summaries; in-depth details of physical description and condition; and preservation and restoration treatment; source of acquisition, and restrictions on use.

8. **Numbers and terms of availability.** Here the documenting of all types of numbers is gathered into one place. These include label and catalogue numbers, matrix numbers, LC (Label Code), and EAN (European Article Number), broadcasters numbers, ISRC (International Standard Recording Code), ISWC (International Standard Work Code), ISAN (International Standard Audiovisual Number). Terms of availability are also given here.

9. **Analytic and multilevel description.** Analytic cataloguing is an especially important concept for cataloguing sound recordings, and techniques and considerations for analytic treatment are extensively covered here. This is because individual recordings are usually grouped together on a particular sound carrier, and over time, the same recordings may be recombined in variant groupings on new carriers. Analytic cataloguing potentially permits a single analytic record for the individual recording to be linked to the catalogue record(s) for one or more host items.

   Multilevel description is also covered in this chapter. Multilevel description has traditionally been used in archives and cataloguing agencies which apply the technique of fonds and collection level cataloguing. Depending on the information retrieval requirements and cataloguing policies and resources of the particular archive or cataloguing agency concerned, multilevel description may or may not extend to the level of the individual recordings contained in the collection or fonds.

10. **Item/copy information.** This chapter addresses the description of multiple duplicate items, and copies of items. It includes such information as specific details of each copy held, the acquisition information and provenance pertaining to each copy, identification of the source copy from which a new copy is made, dates of making a copy and identification of the recordist, conservator or sound engineer making the particular copy; any observations which the conservator or sound engineer wishes to note while working on the copy, equipment and mechanical processes used to make the copy, and shelf location for the copy.

App. A. **Fonds and Collection Level Cataloguing.** An appendix presenting the concept of fonds and collection level cataloguing is included for information, with references to more detailed cataloguing sources to carry out this work, if appropriate, for users of *The IASA Cataloguing Rules.*
App. B Examples. Here several full cataloguing examples for different types of formats and different types of content appear.

App. C. Terms for describing the physical condition of sound recordings. Here terms and definitions are provided to help with identification and documenting any problems with the physical condition of sound recordings. This appendix was based on a draft by audio preservation practitioners and experts, and we also took advice from some members of the IASA Technical Committee for its final version.

App. D. Glossary. This is a glossary of selected terms relating to cataloguing, and to sound and audiovisual technology to assist ease of use of The IASA Cataloguing Rules. Several sources were used to compile it. Many were taken from the July 19, 1994 draft Glossary of Terms Related to the Archiving of Audiovisual Materials prepared by a Working Group from the Round Table of Audiovisual Records (not yet published), with permission of UNESCO.

App. E. Bibliography. This comprises bibliographic information for all works cited and all source material used in the preparation of The IASA Cataloguing Rules.

It was also the Editorial Group's intention to include as many examples as possible throughout The IASA Cataloguing Rules, and many of these examples are published here for the first time. It is important to note that the examples are illustrative and not prescriptive. That is, they illuminate the provisions of the rule to which they are attached, rather than extend those provisions.

Formulated title examples

[BBB news. 1972-06-30. 18:00]
(title for whole broadcast news programme)

[Advertisement. Coca cola: family size: things go better with Coke]

[Advertisement. Coca cola: float with Coke]
(titles for advertisements, showing conflict breaking information)

(ethnographic music title formulated for an institution holding collections covering a broad range of subjects)

or alternatively:

(alternative recommendation for an institution holding specialised ethnographic materials only)
Examples of analytics

I could write a book / Miles Davis Quintet
Music by Richard Rodgers; originally with lyrics by Lorenz Hart
Recorded 1956-10-26 at Van Gelders Studio, Hackensack, NJ
In: Cookin'/Relaxin'. - CD. - Prestige: CDJZD 003. - Side 1 band 7
In: Chronicle. - Boxed set of compact discs. - Prestige: 8 PCD012. - Side 8 band 4

Les garçons de la montagne : bourrée / Lucien Remise, cabrette ; recorded by Cl.
Marcel-Dubois et M. Andral.
Duration: 1 min., 34 sec
(France. Auvergne. RPC Aubrac. Ethnographic collection. 1964. Expedition 1)
Recorded in St-Urcize (Cantal, France) on May 21, 1964
Reference copy available
Inventory nr: 64.36.15
In: 64.36 BM 2. - Preservation copy. - 1 tape reel. - Cut 5
In: 64.36 BM 2. - Dubbing master. - 1 tape reel. - Cut 5
In: C 64.36 BM 2. - Reference copy. - 1 audiocassette tape. - Side 1 cut 5

January 1998 Draft for Comment and responses

As well as making the Draft for Comment available through the IASA website, 132 copies were airmailed around the world to invite comment. In total, 33 persons from 14 countries responded with comments and/or completed questionnaires. An overview of the responses follows.

Responses by country

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>NUMBER OF RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>10</td>
</tr>
<tr>
<td>Denmark</td>
<td>2</td>
</tr>
<tr>
<td>England</td>
<td>2</td>
</tr>
<tr>
<td>Finland</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>4</td>
</tr>
<tr>
<td>Germany</td>
<td>4</td>
</tr>
<tr>
<td>Hungary</td>
<td>1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>1</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
</tr>
<tr>
<td>Norway</td>
<td>1</td>
</tr>
</tbody>
</table>
Responses by country (continued)

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>NUMBER OF RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>2</td>
</tr>
<tr>
<td>South Africa</td>
<td>2</td>
</tr>
<tr>
<td>United States of America</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

Type of institution represented in the responses

<table>
<thead>
<tr>
<th>TYPE OF INSTITUTION</th>
<th>NUMBER OF RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound/AVI/Library collections:</td>
<td></td>
</tr>
<tr>
<td>National</td>
<td>9</td>
</tr>
<tr>
<td>Regional/Local/Special</td>
<td>4</td>
</tr>
<tr>
<td>NGO</td>
<td>2</td>
</tr>
<tr>
<td>Universities</td>
<td>3</td>
</tr>
<tr>
<td>Broadcasters</td>
<td>2</td>
</tr>
<tr>
<td>Researchers/discographers</td>
<td>5</td>
</tr>
<tr>
<td>Standards committees</td>
<td>3</td>
</tr>
<tr>
<td>Other NGO committees</td>
<td>1</td>
</tr>
<tr>
<td>Independent consultants</td>
<td>2</td>
</tr>
<tr>
<td>Library Science Teachers</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

Answers to questionnaire sent with draft for comment

Q.1 Do the IASA Rules adequately address the cataloguing requirements of sound and audiovisual archives, bearing in mind the scope of these Rules as outlined in the preliminary chapter?

YES = 14
Partly YES = 1
Qualified YES = 1
NO = 0

Q.2 If the answer to Q1 was NO, please indicate any gaps or shortcomings that you have discovered.

No response to this question.

Q.3 Are the Rules clearly laid out and easy to follow?

YES = 15
Qualified YES = 1
NO = 0
Q.4 If the answer to Q3 was NO, please suggest ways in which the layout could be improved

No response to this question.

Q.5 Are the examples which illustrate the Rules useful?

YES = 15

NO = 0

Q.6 Have the authors provided enough illustrative examples?

YES = 14

NO = 1 "No, not enough examples, but understand Appendix of Examples is to be in final publication."

Q.7 Would you consider recommending these Rules for adoption by your institution, either wholesale or in part?

YES = 9

YES in part = 6

NO = 1 "AACR2 & MARC are not used by the institution so The IASA Cataloguing Rules would not be adopted."

Total questionnaires returned = 16.

These were received from France (3), South Africa (2), Germany (2), Australia (2), Denmark (2), Norway (1), Finland (1), Indonesia (1), Italy (1), and United States of America (1).

In addition to detailed and specific comment on some parts of the text, more general comments were received. A representative selection of the responses is summarised below.

1. Some respondents noted their appreciation for the rules to form standardised titles for oral histories, field recordings, sound effects, wildlife recordings, etc. and which are designed to assist in devising titles when a title is not on the item itself or where a large number of similar specialist material is being catalogued.

2. The appendix outlining the concept of collection and fonds level cataloguing was considered useful.

3. One requested more detailed information on ISAD (G) and its elements (this is related to the concepts applicable to collection and fonds level cataloguing), while another was pleased with the emphasis on multilevel description in the Introduction and noted that this would strengthen the links between The IASA Cataloguing Rules and the ISAD (G).

4. Some regretted no guidance on indexing.
5. More information on technical description and on copy information was sought by some.

6. More examples were requested, and some respondents indicated that they looked forward to the appendix of examples and also to the glossary which were not included in the draft.

7. Introduction with specific coverage of main concepts and some history of recorded sound was considered helpful by some and especially so for the non-specialist. One also requested information on the history of video.

8. Discussion on appropriate treatment of different types of audiovisual media in the introduction was noted and appreciated by one.

9. Several indicated that they would adopt *The IASA Cataloguing Rules*, and some indicated that *The IASA Cataloguing Rules* would well supplement their existing cataloguing standards. One indicated that they would not adopt *The IASA Cataloguing Rules* as they do not use AACR2 or marc, but that the section on formulating standardised titles would be very useful.

10. While contents notes, analytic and multilevel description are all included to illustrate the possibilities of different ways to handle the contents of a sound recording, one recommended that analytic treatment should be prescribed.

11. One asked if there was sufficient guidance for cataloguing future formats (this has been developed further since) while another believed our work to be too traditional.

12. Another encouraged us greatly with: “A thing of beauty and a joy to behold. How I wish I had them 10 years ago...”

13. There were several detailed and useful comments and recommendations from experienced discographers, and some of these recommendations have been incorporated.

14. There were several detailed and useful technical comments and recommendations by technical experts, and again some of these recommendations have been included.

15. One researcher/discographer strongly objected to our application of the term 'published' rather than 'manufactured', 'released' or 'issued' sound recordings.

16. Another commented that we gave good definitions for 'published', 'unpublished' and 'broadcast' materials.
17. Appreciation was expressed of the disposal of ‘chief’ or ‘prescribed’ sources of information as a practical matter.

18. There was a comment that The IASA Cataloguing Rules were not always as closely aligned on some points to other sources in use and complementary to AACR2 as may have been expected.

19. Two respondents related our work back to the recommendations in the Functional Requirements for Bibliographic Records: Final Report. Recommended by the IFLA Study Group on the Functional Requirements for Bibliographic Records (July 1997). In one case it was noted that our terms didn’t quite match those in the IFLA report, and we subsequently aligned our terms and their use more closely. Another considered that our material would be an excellent example for developing models for future databases based on the IFLA study.

Comments from non-specialists or persons not usually dealing with audiovisual materials were especially appreciative. This was particularly satisfying as there are places throughout this work where we have gone to quite some effort to explain some key background concepts and issues, which experts in this area may normally take for granted. Also, we endeavoured to loosen up the rules within reason so as to empower those using our work to apply common sense in the cataloguing situation they have and if necessary to act according to the spirit of the rule rather than the letter of the law in their work. Furthermore, we included numerous examples for illustrative purposes, and numerous options and alternatives to make the rules as flexible and helpful as possible so that they could be adopted or drawn on as widely as possible in all types of sound and audiovisual institutions.

It was pleasing that almost without exception the respondents to the January 1998 Draft for Comment indicated that they were able to find something that was new and/or especially helpful that they liked about our work.

Concluding comment

The IASA Cataloguing Rules presents the best professional knowledge, experience and skill of all who contributed to it, as at the time of its release. It is deliberately designed to complement AACR2 and ISBD(NBM) as these are widely used and recognised international standards even though not exclusively applied internationally and in all collecting institutions. It is our intention and hope that this work, which was instigated through the vision of the IASA Board in 1992, will be of benefit and assistance to sound and audiovisual archivists and cataloguers.
Fifty years at the service of Cuban music

Rolando Delgado Miranda, Principal Curator,
Centro de Información y Documentación Musical “Odilio Urfé” – Museo Nacional de la Música

History and aims

The aim of the Centro de Información y Documentación Musical “Odilio Urfé” is to acquire, preserve, research and make available Cuba’s musical heritage through the resources at its disposal.

It was founded in 1949 by the researcher, pianist and orchestral conductor Odilio Urfé, and named after him. In the early days it functioned as a research centre devoted to folklore and remains the oldest music research centre in Cuba.

In 1997 it was merged with the Museo Nacional de la Música (founded in 1971). The two collections together make up the most important and comprehensive musical library and archive (including sound recordings) in Cuba. It has been a member of IAML since 1995 and became a member of IASA this year.

The Collection

The Centre has a rich collection of sound recordings. This table gives approximate figures for holdings of different kinds of sound carriers.

<table>
<thead>
<tr>
<th>Carrier</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>78rpm discs</td>
<td>14850</td>
</tr>
<tr>
<td>vinyl discs</td>
<td>10214</td>
</tr>
<tr>
<td>piano rolls</td>
<td>1194</td>
</tr>
<tr>
<td>compact discs</td>
<td>650</td>
</tr>
<tr>
<td>cassettes</td>
<td>620</td>
</tr>
<tr>
<td>open reel tapes</td>
<td>451</td>
</tr>
<tr>
<td>master discs</td>
<td>274</td>
</tr>
<tr>
<td>perforated discs</td>
<td>197</td>
</tr>
<tr>
<td>cylinders</td>
<td>131</td>
</tr>
<tr>
<td>perforated cardboard sheets for........</td>
<td>37</td>
</tr>
<tr>
<td>mechanical organs</td>
<td></td>
</tr>
<tr>
<td>videos</td>
<td>11</td>
</tr>
<tr>
<td>DAT tapes</td>
<td>10</td>
</tr>
<tr>
<td>wire</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>28644</td>
</tr>
</tbody>
</table>
The collection mostly consists of commercial recordings (instrumental, popular and symphonic music) and some field recordings (interviews, popular and traditional music). It embraces Cuban music from all periods, styles and genres which, in turn, forms a major category within American, Latin-American and now world music. Few of the older formats, e.g. piano rolls, gramophone records and cylinders, have ever been reissued on more recent formats and are not to be found preserved anywhere else. Their indisputable historic value also gives to them a commercial value.

The collection of sound recordings is complemented by an important collection of published and manuscript scores (107,200) and books (6,500) on Cuban music, including the original editions. There are also photographs (13,088), stamps (1,585), unedited manuscripts, concert programmes, periodicals, a few films and a collection of Cuban musical instruments, to which instruments from other parts of the world have also been added. This particular collection consists of about 1,600 instruments.

Access

Access to the collection is still at the most basic level. There is a database (CDS/ISIS) but this only contains just over 5,000 entries of which only 1,274 are for sound recordings. The Centre is currently in the process of reorganising itself after the merger and one of the advantages following on from this merger is the possibility of installing a more powerful and function-rich database. Even so, the Centre compiled in 1997 the Catálogo de los fondos discográficos del Centro de Información y Documentación Musical “Odilio Urfe” vol. I, 1906-1959, 78 y 81 rpm. This remains unpublished but there are plans to compile further volumes in order to complete the coverage of all recordings connected with Cuban music.

Preservation

The most urgent concern at the moment is preservation. Although we have a preservation policy, in most cases there are insufficient resources to carry it out. The collection is stored in buildings which are appropriate to conservation but the conditions are not always suitable. For instance, there are areas which are not climate controlled in which dust accumulates and high humidity levels are recorded. In general the collection is in good condition but we are beginning to observe signs of damage, which are attributable to the poor storage conditions, on certain kinds of carriers, such as the master discs, tape reels, cassettes, piano rolls, photographs and scores. Some of this damage is already beyond repair.
Staffing and technical resources

The Centre employs a team of trained librarians. At the moment we have seven full-time staff but we are expecting to increase this number in order to deal with the backlog of unprocessed items.

Technical equipment includes:

<table>
<thead>
<tr>
<th>Recording machines</th>
<th>1 professional recorder (mono), 1 double deck cassette recorder, 1 equaliser, 5 tape recorders, 1 6-channel console.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playback</td>
<td>1 domestic CD/cassette player, 1 mono tape machine, 1 78 rpm record player, 1 45 and 33 1/3 rpm record player, 1 CD player, 3 amplifiers, 1 radio amplifier and pre-amplifier</td>
</tr>
<tr>
<td>Copying</td>
<td>1 Cannon photocopier, 1 HP II scanner</td>
</tr>
</tbody>
</table>

Services

A range of traditional services is offered:

- a listening service (only one listener at a time can be accommodated and the service depends on the availability of suitable equipment. Not all requests for listening can be met);
- library and reference service
- photocopying
- lending
- audio transcription

These are mostly offered free of charge. Charges are only made when the information obtained is to be used for commercial purposes or if the Centre incurs material costs involving foreign exchange.

The services are open Monday to Friday 9.15 to 12.00 and 13.00 to 16.30 and are used by students, teachers, musicologists, researchers, musicians, artists, media and members of the public.

Plans

A major plan is to process systematically all the items in the collection by means of the most advanced library and archive techniques onto a database in order to provide a more efficient information service.
From this information we will be able to generate new products with added value, such as our own recordings, multi-media publications, catalogues, books, etc. which will, in turn, enable us to fulfil the aims of the Centre. We also need to create or improve conditions suitable to the preservation and conservation of the collection and to ensure that staff skills keep pace with advances in music library and audiovisual archive science.

Colophon

On account of its collection, which is the most important music collection in Cuba, the Centre can make a significant contribution to audiovisual archiving in Latin America, and perhaps even in Europe and North America.

For more information and where to find us:

Centro de Información y Documentación Musical "Odilio Urfé"
Museo Nacional de la Música.
Capdevila # 1 e/ Habana y Aguiar; Habana Vieja, Cuba. CP: 10100

Teléfono: (537) 61 9846, (537) 63 0052
Fax: (537) 33 9595
E-mail: urfe@artsoft.cult.cu
Website: www.infoarte.cult.cu/musica/
Contacts: Rolando Delgado Miranda
         Ada Lidia Pacheco
Passione Argentina: tanghi italiani degli anni '30.
Discoteca Di Stato DDS 99-1A/B

and

Sound Documents from the Phonogrammarchiv of the Austrian Academy of Sciences The Complete Historical Collections 1899-1950 Series I: The first expeditions 1901 to Croatia, Brazil, and the Isle of Lesbos
Österreichischen Akademie Der Wissenschaften OEAW PHA CD 7

While there is no content, institutional or technical connection between these two publications, there is a philosophical and an ideological one. They are both concerned with current issues of documentary heritage; its conservation, preservation, appreciation and dissemination. Summed up in a UNESCO statement, "[d]ocumentary heritage reflects the diversity of languages, peoples, and cultures. It is the mirror of the world and its memory. But this memory is fragile. Every day, irreplaceable parts of this memory disappear forever" (http://www.unesco.org/webworld/mdm/en/index_mdm.html). In its inclusive framework UNESCO has acknowledged the importance of safeguarding oral traditions, documentary heritage for these traditions being collated as sound recordings. Since its official adoption of recommendations to safeguard folklore in 1989, at its 24th General Conference in Paris, UNESCO has moved fast, and in 1992 launched the Memory of the World programme "to protect and promote that heritage" (http://www.unesco.org/webworld/memory/Abid.htm). Focusing on archive holdings and library collections, there are around fifty projects currently in the Memory of the World register, dealing with various media, in some twenty-six countries around the world.

Publication of The Complete Historical Collections 1899-1950 of the Phonogrammarchiv of the Austrian Academy of Sciences is one of these projects, and The first expeditions 1901 to Croatia, Brazil, and the Isle of Lesbos is the first in the series. Tracks 1-5 are recordings made by Milan von Reseter in Croatia in 1901. Concerned primarily with text philology, his recordings include folk tales and songs in Serbo-Croatian and Romani. The 5th track is a Croatian song sung by von Reseter himself. Tracks 6-18 present recordings made by members of Richard Wettstein's expedition to Brazil (1901), and of Franz Steindachner's to Paraguay (1903). These were scientific expeditions focusing on botanic and zoological studies. Few are music, tracks 7-13 being lists of substantives in the Guarani language. Others include religious chants in Guarani, a war cry in Guayaki, and a love song in Portuguese. Tracks 19-21 were recorded during Paul Kretschmer's expedition to Lesbos (Lésvos, Greece) in 1901. The three songs are all sung in Demotic. The 47-page booklet gives full details of each expedition and recording, including song texts and translations. There are musical transcriptions for eight of them. An accompanying CD-ROM presents some of the original documentation of the recordings as image files.
But in a sense the content of the recordings is as important in this publication as the process of cleaning up the recordings and making them available for wider access. Indeed, tracks 22-24 on the CD exemplify the technical process by presenting the untreated signal, followed by the same signal with certain noises removed and increased level, followed by the same signal again with bandpass filtering. The difference between the first and the last is quite remarkable, and one quickly appreciates the time and effort that has gone into the production to this high standard of the previous items. Nevertheless, this publication makes no compromises; it is not the kind of thing one would easily listen to without either a very specific and keen interest in the content, or in the technical process.

The recordings presented in the second publication, by contrast, have a much wider appeal. Enrique Cámara, a musicologist from Buenos Aires, has compiled an immensely listenable double CD of Italian tangos from the 1930s. Apart from technically commendable reproductions of the original 78rpm discs, the tango is a universally popular dance form with not only contemporary status, but also nostalgic references. Though this publication does not stem directly from UNESCO's Memory of the World programme, it is based on similar convictions; to respond to the growing interest in cultural heritage and to restore to the public rare and often unique recordings of classical and popular music thereby raising their status as documents of history and culture. I tanghi italiani follows on from an earlier publication, also releasing materials from the Discoteca di Stato, presenting Neapolitan songs from the 1930s. This production coincided with the 21st Session of the UNESCO Committee for World Heritage, held in Naples in 1997.

The double CD package includes two booklets; the first, of 36 pages, gives tracklistings, lyrics, and (what looks like) reproductions of concert posters. The second booklet presents, in 67 pages, an extensive introduction to the tango in Italy. Enrique Cámara contextualises the Italian tango in relation to other dances and musics of the time, and also to social and political conditions affected by the Church and Fascism. He also examines the texts, melodies and structures.

While both of these publications are valuable in that they present rare and unique material to the public, they are also significant for the role they play in raising the status of archives. With these CDs, archives can no longer be thought of as dark, dingy, and inaccessible storage areas. Rather, they are custodians of our cultural heritage.

Dr Janet Topp Fargion  
Curator, International Music Collection  
British Library National Sound Archive
Rudorf, Reginald: Ton ab - Die Geschichte der Schallplatte in Deutschland. [München]: BMG Entertainment Germany/Switzerland/Austria/Eastern Europe Holding 1998. 92 S., Abb., 33 x 23,5 cm, ohne ISBN: DM 39,80 (geb.) Vertrieb: Josef Keller Verlag, Starnberg

Die Geschichte der Schallplatte und die Anfänge der Schallplattenindustrie sind durch Emile Berliner und die weltweit erste kommerzielle Nutzung seiner diesbezüglichen Patente seit 1890 durch die Puppenfabrik Kämmer und Reinhardt in Waltershausen, sowie die dann mit Hilfe seines Bruders Joseph in Hannover errichtete erste europäische Schallplattenfabrik Ende des Jahres 1898 aufs Engste mit Deutschland verbunden. Deutschland ist auch nach den USA und Japan der drittgrößte Tonträgermarkt der Welt und umso erstaunlicher ist die Tatsache, daß bis zum heutigen Tag keine ernsthafte Geschichte der Schallplatte in Deutschland vorliegt; nur der Berliner Diskologe Martin Elste hat mit einigen Aufsätzen ernsthafte Vorarbeiten geliefert, sieht man einmal von den mehr memoirenhaften, aber sehr faktenreichen Publikationen zur Frühgeschichte der Tonträger des langjährigen Lindström-Mitarbeiters Horst Wahl ab, die Hansfried Sieben in Privat-Drucken in Düsseldorf herausgegeben hat.

Sowohl die in vielen Details ungenaue Weltgeschichte der Schallplatte von Curt Ries (1966), als auch Die Stimme seines Herrn von Walter Haas (1959, 1977 geringfügig erweitert als Jahrhundert der Schallplatte neu aufgelegt) sind mehr auf eine journalistisch spannende kulturgeschichtliche Unterhaltung angelegt, als auf eine wissenschaftliche Aufarbeitung des Themas. Walter Haas standen zwar zahlreiche Archive zur Recherche offen, insbesondere das der EMI in Hayes, doch holte er sich nur das heraus, was in seinen wie einen Krimi angelegten Erzählstrang paßte. Beide Publikationen, die sich betont der internationalen Tonträgergeschichte widmen, sind heute vergiffen. So durfte man mit um so größerer Erwartung dem Buch des Frankfurter Musik-journalisten Reginald Rudorf entgegensehen.


gänzlich falscher Beschreibungen bzw. Fakten im Bereich der Aufnahme-, Fabrikations- und Wiedergabetechnik. Hierzu seien nur zwei Beispiele zitiert:

S. 19: "... aus Schellack ließen sich Matritzen herstellen..."
S. 21: "...Beim späteren DMM-Verfahren... werden die Schallschwingungen direkt ohne Magnetband dem Plattenschneider zugeführt...".

Hätten derlei Mängel noch von Fachleuten des eigenen Unternehmens ohne Mühen eliminiert werden können, so ist die historische Kenntnis in einem so jungen Tonträgerunternehmen wie der BMG nicht a priori vorauszusetzen, doch sollte man in einem solchen Fall sich externer Experten versichern. So sind die mangelnden Recherchen voll dem Autor anzulasten, der sich lediglich in der deutschen und internationalen Jazz-Szene ausreichend auszukennen scheint. Diesbezügliche Abschnitte sind lesenswert, da sonst nur in Jazz-Fachpublikationen zugänglich. Im Ansatz ist auch die Einbeziehung der Tonträgergeschichte der DDR positiv zu würdigen; leider vernachlässigt der Autor jedoch die immense Leistung des VEB Deutsche Schallplatten auf dem Sektor der "klassischen" Musik nahezu vollständig.


Von derlei fehlerhaften Fakten einmal abgesehen, ist der Tenor des Textes stark von ideologischen Voreingenommenheiten des Autors bestimmt. Insbesondere greift er (in pauschaler Verallgemeinerung) einen vorgeblichen Meinungsterror seitens der Musikredakteure der öffentlich-rechtlichen Rundfunkanstalten und diverser Print-Medien an, stellt die kulturpolitischen Maßnahmen der DDR mit denen der NS-Zeit auf eine Stufe und beschreibt das Verhalten der Musikindustrie in einem so völlig unkritischen, euphemistischen Licht, wie man es sich heute selbst bei einer Firmen-Publikation eigentlich nicht mehr leisten kann.

Beschlossen sei diese Buch-Rezension mit einem Zitat, einem wahrhaftigen Kalauer, der die mentale Ausrichtung des Branchen-Journalisten Reginald Rudorf im Speziellen vielleicht treffender als mancher der o. g. zahlreichen Einwände charakterisiert (Zitat S. 72): "Kunst ist via Marketing nur dann planbar... wenn man weiß, was der Käufer will."

Dr. Herfrid Kier

This 35-page report deals with the question of how digital information can be preserved in the long term in the face of technical problems associated with computer hardware and software, in particular media decay and obsolescence. The author describes several solutions which, from his point of view, are unsatisfactory and he elaborates a strategy which avoids their drawbacks, and which will offer a "true solution".

The essence of preserving informatory artefacts, according to Rothenberg, is the retention of their meaning. For digital documents, retaining an original may not mean retaining the original medium, but it should mean retaining the functionality, look, and feel of the original document. This requires the ability to recreate the original form and function of a document when it is accessed.

The incentives to convert documents, data, records, and cultural artefacts of all kinds into digital form are strong. Yet the longevity of digital content is problematic for a number of complex and interrelated reasons. Digital documents are vulnerable to data loss by two independent mechanisms: the physical media on which they are stored are subject to physical decay and obsolescence, and the proper interpretation of the documents themselves is inherently dependent upon software. The physical lifetime of the media - and that of the hardware and software necessary to read them - are often surprisingly short, requiring information to be "refreshed" by copying onto new media. Moreover, they become equally inaccessible and unreadable if the software needed to interpret them - and the hardware on which that software runs - is lost or becomes obsolete, e.g. owing to paradigm technological shifts. Furthermore, most digital documents exist only in encoded form, requiring specific software to read their bit streams. There is currently no demonstrably viable technical solution to these problems. It seems that our increasingly digital heritage is at risk of being lost since, without preservation, access becomes impossible and collections decay and disintegrate.

Therefore, in the long term, it is necessary to develop a tried and tested solution to digital longevity that does not require continual heroic efforts or the repeated invention of new approaches every time formats, software or hardware, document types, or record-keeping practices change. It should be completely neutral to the form and content of the digital material it preserves and cover not only text but all other types of digital documents such as multimedia and hypermedia records.

In this context, the author shows that preserving digital records may require substantial new investments and commitments by organisations, institutions and agencies, forcing them to adopt new economic and administrative policies.
In describing the problems Rothenberg does not, generally, reveal any new ideas and confirms the thinking of those IASA members who have been dealing with digitization matters since the early 1990s. Nevertheless, his presentation is almost fully supportable. Unfortunately, gross generalisation in places - which might perhaps be caused by the limited size of the report - results in statements which are unacceptable. For instance, it would have been more informative to differentiate clearly between the development of the mass market for computers and the developments which have been evolving in the field of professional digital preservation. Statements such as “In its short history, computer science has become inured to the fact that every new generation of software and hardware technology entails the loss of information” are not very helpful as they misrepresent the situation. It is also misrepresentative to quote some test results which prove that “a wide range of tapes, magnetic disks, CD-ROMs and other media are unlikely to have a lifetime of even five years”, as long as nothing is said about the prerequisites and test conditions applied.

Rothenberg’s analysis concludes that most approaches to a solution fall into one of four categories: 1) reliance on hard copies, 2) reliance on computer museums, 3) reliance on standards, or 4) reliance on migration.

It is sometimes suggested that digital documents be printed, either rendering their contents or printing their bit streams, and saved in hard-copy form. I consider that this is a rear-guard action rather than a true solution to the problem. Also, I agree with the author that the suggestion that computer museums be established where old machines would run original software to access obsolete documents does not appear to be a serious option for the long-term preservation of digital documents.

Proponents of standards often argue, as the author explains, that the way to deal with the problem of paradigm shifts is to force digital documents into current standard forms and then translate them, when current standards become obsolete, into whatever standards supplant them. Thus, reliance on standards appears to offer a solution by allowing digital documents to be represented in forms that will endure into the future and for which future software will always provide accessibility. But taking this route, working continuously from one standard to another, is like translating Homer into modern English by way of every language that has existed during the intervening 2500 years; instead, the original should be translated directly into current vernacular, because something is always lost in translation. This sounds very plausible - and rather over-subtle at the same time. Does the development of language and of computer software follow the same rules and principles?

Finally, migration which is defined as “the changing over from an installation’s production operating system to an upgraded or entirely new operating system” is, according to the author, the approach that most institutions are adopting because it has been employed widely (in the absence of any alternative), although the universal experience has been that migration is labour-intensive, time-consuming, error-prone and fraught with the danger of losing or corrupting information. In the long run, migration promises to be expensive,
unscalable, at most partially successful and ultimately unfeasible. Well, we can believe that or not; only an information science specialist is able to evaluate all the disadvantages which the author connects with migration. I feel that author is too pessimistic.

Nevertheless, Rothenberg concedes that converting digital documents into standard forms, and migrating to new standards if necessary, may be a useful interim approach while a true long-term solution is being developed and I believe, more strongly than he does, that this is indeed a sound and stable medium-term solution.

The central idea of Rothenberg's approach is to enable the emulation of obsolete systems on future, unknown systems, so that a digital document's original software can be run in the future despite being obsolete. Though it might not be feasible to preserve every conceivable attribute of a digital document in this way, it should be possible to recreate the document's behaviour as accurately as desired - and to test this accuracy in advance. (Emulation is defined as "the use of programming techniques and special machine features to permit a computing system to execute programmes written for another system").

The implementation of this emulation approach would involve three steps:
1) developing generalisable techniques for specifying emulators that will run on unknown future computers; 2) developing techniques for saving - in human-readable form - the metadata needed to find, access and recreate digital documents; 3) developing techniques for encapsulating documents, their attendant data, software and emulator specifications.

Three kinds of information have to be encapsulated: 1) the original digital document and its original software environment, together with the original operating system software; 2) the specification of the emulator for the document's original computing platform; 3) explanatory material, labelling information, annotations, metadata about the document and its history, and documentation for the software and (emulated) hardware included in the encapsulation.

Most of us are IT laymen and not able to disprove the author's theory. As he maintains, emulating a hardware platform is a well-understood common technique, entirely feasible and in fact done routinely; hence, it appears to be the best approach, given the current state of the art. Nevertheless, at present an evaluation of this approach is extremely difficult because almost all necessary techniques have yet to be developed; their expense and the effort required to evolve them are not even mentioned. For the time being, this report represents a promising start which requires further research and proof of feasibility. In this sense, I can recommend to those dealing with digital documents and who are also sufficiently familiar with information science to study Jeff Rothenberg's provoking report.

Albrecht Haefner, SWR
Wäinö Sola: recordings, 1909-1944. Fuga 9096. Available from: Fuga, Kaisaniemenkatu 7, FIN-00100 Helsinki, Finland. Fax +3589 70018252. e-mail fuga@fuga.fi Cost: 100 Finnish marks plus postage.

Contents: arias by Leoncavallo and Mascagni; songs by Merikanto, Kauppi, Kotilainen, Kuula, Melartin, Maasalo, Järnefelt, Rubinstein, Nisonen, Arne, Tosti and Ikonen; a curiosity by Kauppi.

Outside Finland Wäinö Sola is probably not even known by name, let alone as a singing voice of distinction and national importance. This compilation by Pekka Gronow of restorations engineered by his YLE colleague Kalevi Immonin has now appeared to set the record straight on his behalf.

Sola (1883-1962) was a fine lyric tenor in the northern tradition and an important figure in Finnish operatic life during the first half of the century, being one of the founders of what would later become the Finnish Opera. He was an enthusiastic supporter of opera in the vernacular, and this CD opens with his only two extant operatic arias: Vesti la giubba (Pagliacci) and Brindisi (Cavalleria rusticana), both dating from 1913, and sung in Finnish. Apart from Arne's Lass with the delicate air, Rubinstein's Noch' (Night) and Tosti's Goodbye, all the other items are by Finnish composers.

The recordings are divided into two chronological sequences: 1912-1915 together with an earlier 1909 recording – which sounds to this listener as if the pitch might be a little on the low side – and 1925-1928. There is no explanation in the notes for the lack of recordings from the intervening decade though they do tell us that Sola made no recordings for more than a decade after his 1928 sessions for Columbia. These were cut while on one of his US tours and provoked a contractual dispute with the Gramophone Company for whom his earlier recordings had been made. The final item, dating from 1944 is the only recorded excerpt from Kauppi's opera on Aleksis Kivi's classic drama of The village cobblers. Sola was a personal friend of the composer, and both directed the only production and sang the principal role. The opera sank rapidly without trace after receiving severely critical reviews and the composer disappeared and is presumed to have committed suicide by drowning. This recording was taken from a recently discovered metal master since no pressing has been found. What it does show us is that Sola was still in fine voice in his sixty-first year.

Pekka Gronow and YLE are to be congratulated for providing us with these fine transcriptions, taken from good quality originals in the collections of Yleisradio and Suomen Aäntearkisto (Finnish Institute of Recorded Sound) and for adding to the growing number of professionally produced publications by IASA member institutions in collaboration with commercial record companies. One minus point: if this disc was intended to bring Sola and perhaps Finnish song to the attention of a wider international audience, then it is let down a little by the lack of texts and translations for the songs.

Antony Gordon, British Library National Sound Archive
A new IASA Board - a new round of Board Charts, beginning with the Treasurer. Pekka Gronow, from Finland, wipes the snow off his favourite records to reveal his past and present playlists.

Pekka Gronow’s Top Ten

I do not remember being much interested in music as a young child. My musical childhood began when I was about twelve years old, and a classmate got me interested in records. I have taken the liberty of counting my first 25 years as my musical childhood. Some friends would say that 50 would be a more honest estimate... So, the first records I remember from my musical childhood.

1. Benny Goodman Sextet: *Flying home* (Parlophone DPY 1058)
   After I became interested in music, I spent most of my money on records. This was the first one I ever bought, of course 78 rpm, and I still like it for Charlie Christian’s great guitar playing. Discographers, note the Finnish pressing.

2. Giuseppe Anselmi: *Ah non credevi tu* (Fonotipia 62161)
   This was the first Fonotipia I ever found, in a junk shop in Helsinki around 1959. In awful condition, but what a memorable label!

3. Dixieland Thumpers: *There’ll come a day* (Jazz Collector L14)
   I had been reading *Dictionary of jazz* and *Shining trumpets*, and they were writing about all these strange records which nobody had seen in Finland. Eventually I found that one could order records by mail from abroad. A record shop in London was making reissues of (then) little known records like this wonderful washboard band with the Dodds brothers. I never could afford to buy more than a few 78s. LPs were so expensive that I did not even dream of them.

4. Lemmy Mabaso: *Little Lemmy kwela*. UK Decca (45 rpm)
   Intuition made me pick up this single in a discount pile at a local record shop around 1958. I guess it must have been the first “world music” record ever sold in Finland - not too many copies. I was really struck by the odd, jazzy flute playing from South Africa.

   In 1961, just out of high school, I got a scholarship to study at Wesleyan University in the USA. It was pure luck that I got into a school where David McAllester had started one of the first academic ethnomusicology programs. After I joined the Indian music study group to learn the vina, I bought this LP from Sam Goody’s. I still think it is one of the best, and I wish I could find a replacement for my worn copy.

   In January 1962, mint 78s were selling for twenty cents on Chicago’s South Side.
7. John Higgins sings Carnatic Music. HMV (India) ECLP 2378.
I never learned to play the vina properly, but my friend Jon Higgins from the study group did. He went to Madras to continue his studies and became so good that Indian HMV asked him to make a record. It is very sad that he was later killed in an accident in Canada.

Marty Hatch, who lived a few doors down the corridor from me at Clark Hall, had this original Sun single which he was always playing. He promised to give it to me if I would ever start writing seriously about popular music. Marty, I'm waiting.

The first underground comic books appeared in the late 1960s. This is a new folk art, I thought, and for some years I translated a lot of Robert Crumb's work for a Finnish magazine. His story How I quit collecting records should be required reading for archivists. Crumb even published some 78 rpm records, but his banjo playing is not quite equal to his drawing.

In 1968, my friend M.A. Nummenen and I decided to publish a record as a sociological experiment, and got together a bunch of young musicians. Ilpo Saunio, with whom I eventually wrote several books and articles, had the keys to a rehearsal studio where we made the recordings secretly at night. We had a lot of fun and sold almost a thousand LPs, but book-keeping was so boring that we gave the company away. This was the only time my own arrangements have been recorded, but M.A. eventually became quite famous as a recording artist. Lately he has been appearing on television as Bommi the Rabbit, wearing a rabbit suit. I'm stuck with records.

Thirty years later...

For the past ten years, I have been working as an archivist at the Finnish Broadcasting Company. During this period I have bought about fifty thousand CDs, all of which I should have listened to. In my free time I like to produce records, not my own music anymore, thank God, but historical reissues. The music I listen to at my leisure consists of a mixture of old favourites and current projects.

I spent about five years on this project, searching for alternate takes and trying various noise-reduction methods. I must have heard all the tracks a hundred times, but I still love her interpretation of the Jewel Aria from Gounod's Faust. In the summer we bicycle almost every week to her summer cottage outside Helsinki.
   I have a secret weakness for country music with pedal steel guitars or dobro's, and Jimmie Dale Gilmore is my favourite country artist. Who else can combine songs like *Jole Blon* with *Bhagavan Decreed?*

   I thought this was the way rock should go when *Song Cycle* first came out, so I bought it again when it was reissued on CD. It sounds a bit pretentious now, but I still enjoy Van Dyke Parks' "art rock".

   I got to know Dick Spottswood when we were both doing research on the music of American immigrants. He always finds records I have in vain been looking for, but fortunately he puts the best ones out on CDs. One of the delights in studying historical records is that you still meet musical styles you didn't even know existed, like this Slovakian variety of the csardas, played by immigrants in Pennsylvania.

   Olavi Virta was the most productive post-war Finnish popular singer, with more than 600 titles to his credit. It is always an education to listen to an artist's collected recordings, although best taken in small doses. Virta really is Finland's Sinatra, although I used to hate him as a kid, and at least twenty of his best records deserve repeated play. My personal favourite is his interpretation of *September song*.

   The final part of the concerto never fails to give me a thrill. There are of course many fine recordings, but I like this one, maybe because I remember the little lady and her story of the circumstances in which she made this record in wartime Berlin.

7. Verdi *La Traviata*. Callas/Kraus. EMI.
   There is a story behind this record, too, the opera Callas nearly did not record, but it really is a wonderful performance. I only wish there was a video, too.

   Everybody in Finland has a complex relationship with Russia, especially if they have a Russian grandmother like me. My solution is to listen to Jeanne Bichevskaya interpret Russian songs with her Joan Baez voice.

   I won't even try to explain this to anyone who does not understand Finnish, but if you do, this is the funniest record ever made. Jaakko Teppo comes from a line of great Finnish dialect comedians.

This is my current project. The Finnish bass Hjalmar Frey, who created the role of Surin in *Queen of Spades* in St. Petersburg 1890, is almost forgotten today, but more and more of his records are turning up, and with one thing leading to another, this will keep me busy until 2001 at least. There are still at least twenty records I haven't heard yet...
Comment on “Der ‘Ewige Datensatz’ oder: Löst Digitalisierung wirklich alle Archivprobleme?” (“The ‘eternal data store’ or: does digitisation really solve all archiving problems?”) by George Brock-Nannestad

Frank Rainer Huck has written a well-argued protest against blind digitisation of audio material, and it was commented on, with just a hint of exasperation by Albrecht Hafner and from more fundamental considerations by Zoltan Vajda. Nobody has indicated that they had actually read my contribution, to which I gave the title The digital termites or how our heritage is eroded bit by bit, in which I warned against mass storage systems because they removed responsibility from archives.

I feel that certain aspects need to be expanded, and these are very philosophical aspects.

First of all, the concentration on intended content - the sound that is stored on the recording. This is very typical of the professional environment out of which IASA grew, that of librarians, more specifically, music librarians. Let us look at what a paper librarian does with printed materials, something for which present IASA members are not generally responsible. The perspective obtained by not looking at materials that are too familiar to us may be very beneficial.

Let us look at a professional journal, such as Proceedings of the Institution of Radio Engineers, Wireless World, or Acta Musicologica. These magazines have a cover, pages which carry advertisements (which are either unpaginated or follow a non-consecutive system), and editorial matter paginated from issue to issue to give consecutive page numberings for complete volumes. Pages carrying advertisements may precede or follow editorial matter. What happens to journals in libraries? They are compiled into bound volumes for later perusal. When binding, the bookbinder separates all the issues, discards the non-editorial matter, and binds the volume together with the index which he will find loosely inserted in the first issue of the next volume. The editorial text matter may from time to time be over-abundantly instructive, because some temporal phenomena have been illustrated by printing consecutive images in the outer margins, ready to be flicked in simulation of a moving picture (this has been the case in IEEE Transactions on Antennas and Propagation and most recently, in Electronics World regarding Baird's telesisor). However, during binding, the margins are cut, and this instructive information is lost. The action was performed by the bookbinder, but the responsibility is the librarian's.

Now, if we want to know 1) the complete information that was presented to the subscriber; 2) what equipment or what books and sheet music were currently advertised, 3) which item had been given by the editor such an importance that it was printed on the front of the cover, then we will be absolutely unable to answer this question by consulting a library. I believe that an overwhelming majority of the world’s libraries behave like this when binding volumes. Why? Because for libraries it is the edited text, the intended information, which matters most. This means that the very few remaining loose issues, frowned upon by libraries, actually
carry an enormous burden of ancillary information which in the proper context will teach the researcher very much indeed. It is the researcher who asks the questions, but the library can only answer if the material has the potential to answer the question. And this potential is being systematically removed and destroyed.

The above description may serve as a memento regarding sound recordings and other audiovisual material. What we perceive as the information content is what we, with our 1999 view, regard as important. The better original recordings become, the more likely it is that we will have judged correctly for all times when concentrating on preserving the sonic content. However, it is equally important to preserve the ancillary text and packaging when we deal with commercial recordings. This is obviously also done, but any re-establishment of an item by assembling its components is purely synthetic, in particular if the sonic content has been transferred to another medium. When old recordings are discussed, it is quite difficult to prescribe precise criteria for deciding whether a sound is a noise or an intended sound, and so both must be preserved, for later separation.

There can be no doubt that digitisation, even only to today's cheap standard, is a good way of preserving sonic information which already has a high quality. However, digitisation as such is not preservation, it is only encoding the signal in such a way that the preservation of the digital signal by copying becomes perfect. There can also be no doubt that, technically, a mass storage system with a global grid and distributed storage is very, very safe. However, it must run, it is a living organism which must be fed. Feeding requires funding, and I believe that the fundamental doubt that I sense in Frank Rainer Huck is distrust in the funding bodies. What happens if they do not pay up in time? And this, I agree, is a most frightening prospect. Had storage been digital during the Second World War, when, in some countries, certain music was banned and great destruction occurred elsewhere, there is no doubt that countless hours of recordings would have disappeared, banned simply by switching the power off.

We can develop the feeding metaphor further: one of the advantages originally claimed for the car was that it did not need feeding in the stables when it was not in use. In an insecure funding situation the priorities must change, and it becomes better to preserve physical items with a long unattended life than something which will not tolerate lack of feeding. The simpler the physical phenomena are for storage, the easier it is to reconstruct replay apparatus when money begins to flow again, and this is the only argument against the complex electronics which provides digital preservation. It is a trade-off: complexity ensures perfect copyability, provided the secret key is known and the lock is functional, whereas less than perfect copies may survive unattended for at least fifty years. Obviously the lack of perfection accumulates if this procedure is continued every fifty years, and finally the intended signal is extinguished.

In the old days of radio archives, the material to be preserved was free: it consisted of tapes already made and paid for in preparation for transmission. In our days, this has been turned into material which has been digitized for access, although it was not originally in a digital
form, and is now available for free in this form and may be copied perfectly. The mere handling costs for making an access copy are so high that it is very unlikely that an archival standard transfer will be made for preservation purposes. We will have a de facto preservation standard which is identical to the rushed access copy standard. And - this is where I have won notoriety - my sad but logical conclusion is that even a bad but eternal copy is better than no copy at all. And in the same vein, even a physiologically data-reduced version is better than no version at all. There - I have said it.

Notes and references

A IASA Journal No. 11 (June 1998) pp 10-16
B IASA Journal No. 12 (January 1999) pp 76-79
C IASA Journal No. 12 (January 1999) pp 80-83
D IASA Journal No. 5 (May 1995) pp 75-78
F During a workshop at the AES Conference in Copenhagen in 1996 I said this and also that all archives did not need to be responsible for material which had sold by the millions, and I smashed a superfluous shellac record. This was misunderstood and reported in John Borwick, "Audio and the record collector" Historic Classical Record Collector, Vol. 2, No. 6, p.74.
IASA Journal is constantly looking for material to publish: articles, reviews, reports of meetings or new developments.

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