

**iasa**

**International Association of Sound Archives**

**Association Internationale d'Archives Sonores**

**Internationale Vereinigung der Schallarchive**

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## **IASA JOURNAL**

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Organe de l'Association Internationale d'Archives Sonores IASA  
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Editor: Helen P Harrison, Open University Library, Walton Hall, Milton Keynes, MK7 6AA, England.  
Fax: +44 908 653744

Reviews and Recent Publications Editor: Pekka Gronow, Finnish Broadcasting Company, PO Box 10, SF-00241, Helsinki, Finland. Fax: 3580 1480 2089

The IASA Journal is published twice a year and is sent to all members of IASA. Applications for membership in IASA should be sent to the Secretary General (see list of officers below). The annual dues are DM40 for individual members and DM110 for institutional members. Back copies of the IASA Journal from 1971 are available on application. Subscriptions to the current year's issues of the IASA Journal are also available to non-members at a cost of DM55.

Le Journal de l'Association internationale d'archives sonores, le IASA Journal, est publié deux fois l'an et distribué à tous les membres. Veuillez envoyer vos demandes d'adhésion au secrétaire dont vous trouverez l'adresse ci-dessous. Les cotisations annuelles sont en ce moment de DM40 pour les membres individuels et DM110 pour les membres institutionnelles. Les numéros précédentes (à partir de 1971) du IASA JOURNAL sont disponibles sur demande. Ceux qui ne sont pas membres de l'Association peuvent obtenir un abonnement du IASA JOURNAL pour l'année courante au coût de DM55.

Das IASA JOURNAL erscheint zweimal jährlich und geht allen Mitgliedern der IASA zu. Aufnahmeanträge für die Mitgliedschaft bei der IASA sind an das Sekretariat (Anschrift siehe unten) zu richten. Die Mitgliedsbeiträge betragen derzeit DM40 für individuelle Mitglieder und DM110 für Institutionen. Frühere Jahrgänge des IASA JOURNAL (ab 1971) sind auf Anfrage erhältlich. Der Bezugspreis des IASA JOURNAL für Nicht-Mitglieder beträgt DM55.

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Editor: Helen P Harrison, Open University Library, Walton Hall, Milton Keynes MK7 6AA, England. Fax +44 908 653744

Secretary General: Sven Allerstrand, ALB, Box 27890, S-115 93 Stockholm, Sweden. Fax +46 8 663 1811

Treasurer: Vacant. (Acting Treasurer: Anna Maria Foyer, c/- ALB, Box 27890, S-115 93 Stockholm, Sweden. Fax +46 8 663 1811

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# EDITORIAL

*Helen P Harrison*

I take over the role of Editor of IASA publications with some trepidation and a great deal of caution. The job has been carried out successfully by some of the luminaries of IASA: Rolf Schuursma, Ann Schuursma, Dietrich Schüller and Grace Koch to name those in my own time as a member of the Association. The trepidation comes from the inevitable comparison with these predecessors. The caution will be evident for a while in that, for the *Journal* at least, I will try to keep a similar format and style. As a librarian and editor of other publications I appreciate the value of continuity of size, shape, frequency and style. How anyone apart from a periodicals librarian sorts out the oddities and variety of other people's 'inspired' ideas fills me with wonder.

There are always things about the *Journal* which we do not like - I hear criticisms of boring covers and/or contents. As to the cover, it is now identifiable and recognisable although it has taken a long time for it to become so. Changes might only be cosmetic and more than likely expensive. Concerning the contents we can and do sometimes commission articles, but the membership are the experts and they are the ones we look to for input and copy, and the annual Conference of IASA remains the main source of supply. But on no account should we be complacent about the *Journal* or other IASA publications, ideas for change are always welcome and material for inclusion even more so.

The Annual Conference in Helsinki in August 1993 provides most of the material contained in this issue. The conference itself was held in conjunction with IAML (International Association of Music Libraries) and IAMIC (International Association of Music Information Centres) two associations we have cooperated with over many years. Helsinki was an hospitable venue and the organisation of the conference was so smooth as to be almost imperceptible except that there was always someone there to help if it was needed. The IASA programme proved to be as busy as ever and some interesting sessions and papers emerged. There was also an encouraging amount of business conducted by the committees and several plans initiated for work during the next few years.

Of the sessions presented four appear in their entirety in this issue. Finland as the host country presented the now traditional session on sound and audiovisual archives in Finland with six short papers ranging over the great variety of archives with which the country is endowed.

The Cataloguing committee was particularly active during the conference and held an enthusiastic session with papers on the IASA project to compile a set of rules for cataloguing sound documents. Mary Miliano provided us with an overview of the framework for these rules and she was followed by Rainer Hubert giving an insight into the difficulties of cataloguing the material and what the IASA Rules will need to take into account. Another aspect of cataloguing audio material was illustrated by Olle Johannsen of ALB with his paper on shared cataloguing between institutions - where rules of procedure are obviously essential.

The open session of the Discography committee concentrated on opera materials, with an interesting paper from Alexander Tikhonov of the Russian State Archives of Phonodocuments concerning early Russian recordings. Timothy Day of the National Sound Archive in the UK discussed an oral history project dealing with one of the major opera companies in England and indicating in the process how this project draws on and contributes towards discographic research. The session wound up with a demonstration of the UK National Discography where most of the examples were in fact taken from operatic recordings.

The Technical Committee presented two open sessions to IASA members and a teaching seminar to a joint session of IASA and IAML on basic handling of magnetic and disc materials. The latter was very well received and we are hoping to produce a monograph with the two extensive papers in the IASA Publications series during 1994. The session which appears in this issue concerned bit rate reduction with three main papers devoted to this current debate, explaining the concept and giving us a balance of opinion and as to how useful the technique is for archival material. During the session the Committee were at pains to describe the technical aspects in terms suitable for an un-technical audience. Some of us would come away from the session enlightened, others would still have a lot of questions buzzing around in their heads. By printing the papers we hope that you can refresh your memory and consider the *pros* and *cons* at leisure. It will also give those who could not attend conference the opportunity to learn something of the march of progress of technical development. These are of course the main reasons for printing the Proceedings of the conference in detail in the *Journal*: to inform the whole membership and to give those who attended conference the opportunity to learn and absorb more than they might have been able to take in within the time constraints of a conference session.

The other paper which makes up the contents of this issue concerns Project JUKEBOX and was given in the Copyright open session. The last issue of the *IASA Journal* contained an article on setting up the project and this one deals specifically with the copyright implications.

Finally we have reports on significant meetings recently held.

This editorial has extended rather more than it should, and now we should hand over to the more important contents of the *IASA JOURNAL*.

The *IASA JOURNAL* is constantly looking for material to publish: articles, reviews, reports of meetings or new developments. Please send anything which you may consider of interest to fellow members to the Editor, address on the front inside cover. Please send copy in either good letter quality or better on PC floppy disc in ASCII format.

The date for copy of the next issue, Number 3 to be published in May 1994 is

**31 March 1994**

## IASA PRESIDENT'S REPORT

*James McCarthy, National Film and Sound Archive, Australia*

Firstly my sincere thanks for the support and encouragement many of you have given me before and after the conference. I hope to serve the organisation in the best traditions of my predecessors.

In my introductory remarks at the Helsinki conference I spoke of the need to make communication between the members our highest priority. In this I especially requested those of us who have English as a first language to make certain we are clear and unambiguous in our discussions and correspondence, keeping in mind the fact that many members have considerable difficulty in following our complex debates. If we want the organisation to truly reflect the international character and obligations of its charter, this must be observed.

Despite our best intentions, I do not believe there would have been as many difficulties with the IASA/IASAVA debate, had we been clearer in our communications with each other. In my experience it is not enough to say something once, believing all involved will comprehend, thus clearing the way for immediate action. With a sensitive issue such as this one, it was imperative that the whole membership was kept fully informed each step of the way.

Fortunately this process is now well in hand and debate in open forum and the columns of the *Journal* are proceeding well. The next *Journal* will contain some thought provoking articles, including fresh material raising issues about particular aspects of AV and sound as specific disciplines, which should give us all pause for thought. As I said in my opening remarks in Helsinki, some accommodation with AV is likely, but this does not mean that IASA's drift into AV, as a total absorption, is inevitable and I have never supported that view.

I should also like to take this opportunity, as I did at Conference, to acknowledge the debt we owe the previous Board, in particular Gerry Gibson and Sven Allerstrand, who had to steer the organisation through the most difficult period of its existence. As incoming President I am particularly grateful that their diligence has made my task a great deal easier.

# AV ARCHIVES IN FINLAND

## SOUND ARCHIVES IN FINLAND: AN INTRODUCTION

*Pekka Gronow, Yleisradio, Helsinki*

Papers presented at the session of the host country during the IASA/IAML/IAMIC Conference in Helsinki, 1993

Most of us have learned that there is no universally accepted model of the organization of sound archives. Most countries have a national library and many a national film archive, but relatively few countries have an independent national sound archive which has a central responsibility for this field. This certainly holds true for Finland as well. It would be difficult to name any particular institution as the national sound archive. Yet the country has many established institutions dealing with the archiving of sound, and in many areas decentralization seems to be working fine.

A special feature of Finnish sound archiving is the proliferation of archives concerned with the documentation of the spoken language and folklore, including folk music. They were represented at the conference by the Folklore Archive of the Finnish Literature Society and the Finnish Language Tape Archives. Other important archives in this field include the Institute of Folk Tradition at the University of Tampere, the Folk Music Institute in Kaustinen, and the Folklore Archive of the Swedish Literature Society (focusing on the Swedish language as spoken in Finland). Finland has also many scholars working in the field of oral history, but most of them have not deemed it important to preserve their materials in audio form.

Until 1985, radio broadcasting in Finland was the monopoly of Yleisradio, The Finnish Broadcasting Company, and the company has extensive programme archives going back to the thirties. At present there are also about 50 private commercial radio stations in Finland, but no plans to archive their programmes.

Legal deposit of published sound and video recordings was introduced in 1981; the system was presented at the conference by the Helsinki and Jyväskylä University libraries. There is no similar public institution dealing with older commercial recordings; the only existing collection is found in Broadcasting House.

In view of IASA's recent concern with other audiovisual materials, the organizers had also invited a representative of Suomen Elokuva-arkisto (SEA), the Finnish Film Archive. Finnish film producers are required by law to deposit copies of their films in the archive. It might be added that the legislation also covers television programmes, but at present it merely forbids television companies to obliterate their programmes. There are no provisions for outside access.

## SOUND RECORDINGS IN HELSINKI UNIVERSITY LIBRARY

*Leena Pärssinen, Helsinki Public Library*

Presented to the IASA/IAML/IAMIC Conference in Helsinki 1993

Helsinki University Library has a long history: it was founded in 1640. Looked at in this perspective the history of the Library's collection of sound recordings is very short. It was until 1981 that the Copyright Deposit Act was extended to include audiovisual material, so the sound recordings collection is just over ten years old.

### DEPOSIT

As the National Library of Finland Helsinki University Library has the right to free copies of all material printed in Finland - regardless of whether the material has been commercially sold or not. Now the same applies to sound recordings. All recordings produced in Finland - with an edition of 50 or more copies - have to be deposited in two copies. The first copy remains in our library and the second one is delivered by our Deposit Copy Office to Jyväskylä University Library.

According to the Legal Deposit Act the manufacturer is responsible for the deposit. This differs from the practice in many other countries, where the publisher/producer is the responsible party. The Finnish legislation stipulates that in certain cases the producer may also be responsible for the deposit.

The recording must be deposited in its original complete condition, which includes covers, all texts printed in a printing office and all supplementary material. A special group includes the study kits and other multimedia consisting of many components such as slides, transparencies and so on. All these components must be included in the deposit. The exception is films and videos, which are to be delivered to the Finnish Film Archive.

### COLLECTION AND FORMATS

This background indicates the diversity of the contents and forms of the material. The contents cover music, fiction, religious meetings and other events, newspapers, gymnastic programmes, study material, language courses and advertisements. Approximately half of the material is music and the other half speech recordings: in other words the spoken word forms a large part of the collection. Of the music about 25% is serious music and 75% popular music.

Among the media formats are LP, EP and singles records which are now becoming obsolete. Sound cassettes are produced and used in Finland in extraordinarily high numbers. Almost 50% of the collection is in cassette form. The number of CDs is constantly growing although CDs are not yet manufactured in Finland. In the case of CDs, the producer is responsible for the deposit required by law.

The number of recordings received as free copies is now 59,000 items. About 13,000 are records and 15,000 are sound cassettes. In addition there are about 23,000 talking newspapers, mainly on cassettes. Other AV-material amounts to about 7,000 items. The annual accession of deposit copies is about 6,000 items.

## PRESERVATION

The National Library is responsible for the preservation of the cultural heritage. The Helsinki University Library is within the national system and has responsibility for the preservation of recordings. The main problem in this connection is the great number of Compact cassettes. With a minimum of staff the Library is forced to restrict its conservation activity to playing the cassette to prevent print-through. In time the cassettes will be transferred to another format and the covers preserved as separate objects.

Because the deposit copy legislation was extended as late as 1981, the Library tries to add older recordings to the collection by acquiring back copies. At present there is a joint project with the Finnish Broadcasting Corporation in which Finnish records from the period 1955-1965 are copied for the Library's collection. The goal is to fill the gap back to the very first recording of 1901.

The use of the collection of Finnish sound recordings is still small, because the collection is so young that it is not yet historically interesting. The 1980s are still too fresh in the memory to intrigue researchers. In time the spoken recordings will perhaps become the most interesting part of the collection.

Being a small country there is an excellent opportunity in Finland for joint projects between different institutes to achieve nationally important results. Shortage of resources has forced the library to work this way in many spheres of activity. Regarding sound recordings the Helsinki University Library cooperates with Jyväskylä University Library, the library which receives the second deposit copy and registers the material, and the Finnish Broadcasting Corporation which with regard to collection and expert knowledge surpasses all other institutes in Finland. It should be mentioned that the cataloguing of music recordings is built in such a way that Helsinki University Library can make use of the catalogue published by Jyväskylä University Library, as both similar collections of music recordings have the same accession numbers.

Speech recordings and other audiovisual material are to be found in the same Fennica data base with all the printed materials.

The policy of the Finnish collection of sound recordings is in the first place to ensure the deposit and the preservation of the material.

The promotion of the use and the better services for scholars are future development plans. The Library will get appropriate facilities for the collection in a few years time. There are plans to set up a separate music library and to make the other audiovisual items more accessible. The National Library's challenge is to get sound recordings in as high a position in Finnish scholarly life as the printed word.

## JYVÄSKYLÄ UNIVERSITY LIBRARY

*Annika Puruskainen-Jalkanen, Jyväskylä University Library*

When the University Libraries of Helsinki and Jyväskylä began to receive legal deposit copies of audio-visual materials, the two libraries agreed that sound recordings would be catalogued in Jyväskylä, audio-visual materials in Helsinki. So the national discography made by our university is the catalogue of the collections of both Jyväskylä and Helsinki University Libraries. It was also decided that audiovisual material other than sound recordings would be included in the Finnish National Bibliography. Formerly Finnish recordings were catalogued by the Finnish Archive for Recorded Sound, the printed catalogues 1901 - 1982.

From the beginning it was taken for granted that sound recordings would be catalogued in computerized form. An application for the computerized cataloguing of sound recordings was developed during 1983, resulting in a MARC-based format for cataloguing sound recordings, FINMARC (AV).

Sound recordings are catalogued in accordance with Finnish cataloguing rules based on the AACR. Compromises are made, however, when rational information retrieval and processing require them. The aim is to describe the materials in sufficient detail and to provide sensible access to all the information incorporated into a record. The main portion of the entry covers the statement of responsibility, the title, imprint, collation, and analytical notes on the contents of the recording, together with an identification code. The analytical notes specify the works included in the recording, its playing time (since 1988), its year of original publication (since 1989), its composers, lyricists, arrangers, performers, and any other authors. Up to three authors are given in each category of authorial responsibility.

Despite its shortcomings, the current record format has served its purpose in practice reasonably well. In the last few years, many MARC-based formats for cataloguing various types of materials have been in preparation in Finland. A version of a new format, also suitable for cataloguing music, will be released this autumn.

The first Catalogue of Finnish Recordings edited and published by Jyväskylä University Library covers materials which came out in 1983. The catalogue is published annually in separate main catalogue and index volumes. The newest volumes cover the year 1990.

### **THE MUSTI DATABASE**

Apart from the printed national discography, the cataloguing work carried out in Jyväskylä also generates a database called MUSTI.

The database is going through big changes. This year the MUSTI database was transferred into the Jyväskylä University's own computer. In cataloguing we use the Word Perfect - program. Right now plans are being made for a common national music database, which would be maintained by Helsinki and Jyväskylä University Libraries, the

Finnish Library Service and the Sibelius Academy. The system will be VTLS (Virginia Technical Library Systems), which is already used by the university libraries in cataloguing printed material. We are looking forward to testing the system next year.

#### ACCESS TO AND PRESERVATION OF THE MATERIALS

The Finnish Ministry of Education has issued guidelines concerning the use of the legal deposit copies of Finnish sound recordings. The recordings constitute a reference collection meant chiefly for the use of researchers. They may not be borrowed for home use or lent through the interlibrary loan system. In order to avoid wearing out the original, the library is allowed to make one working copy of each recording. Records are accessible to users in a special audio-visual materials room provided at the library. The collection may be used only within the bounds of copyright consideration; and here the application of less rigid rules would have been more sensible.

This year our library has begun to acquire the first sound recordings of so called "foreign Fennica", works by Finnish composers and performers which have been recorded elsewhere. The Jyväskylä University Library sees its audio-visual materials as an aspect of its work of preserving and making accessible the Finnish cultural heritage; the maintenance of its collection of printed matter is also based on this premise. The collection of sound recordings is therefore maintained for the use of future generations of researchers. The collection grows in importance as the volume and age of its contents increase.

## THE SOUND RECORDING ARCHIVE AND THE FOLKLORE ARCHIVE OF THE FINNISH LITERATURE SOCIETY

*Anneli Asplund, Finnish Literature Society, Helsinki*

The Finnish Literature Society was established in 1831, when Finnish was not yet an official language of Finland. Although it is a private academic society, it receives a lot of support from the State. It has a number of functions, one of the most important being to maintain a folklore archive. The archive is the biggest of the society's departments in the number of people it employs, sixteen altogether. The sound recording archive is in turn part of the folklore archive and operates with a regular staff of four - three researchers and a research assistant. Extra staff are sometimes employed for various projects.

The sound recording archive was made a separate department in the early fifties. There are, however, sound recordings from a much earlier date, since the phonograph was first used as an aid in collecting at the beginning of this century. The oldest sound recordings in the folklore archive are phonograph cylinders dating from 1905 and 1906.

At the time when these recordings were made, Finland was still part of the Russian empire. The Finns were, however, working towards political independence and seeking an identity of their own, and scholars were therefore especially interested in recording folklore. The miraculous invention in the form of the phonograph opened new opportunities. Scholars from the society, armed with phonographs, set off first for Karelia and Ingria, areas where folklore collectors had already in the early years of the 19th century succeeded in writing down ancient songs that had already vanished from the more westernized parts of Finland.

The phonograph was used side by side with pen and paper until the thirties, when disc recording made its appearance. At first only the Finnish Broadcasting Company had the necessary recording machines, and researchers sent good singers and instrumentalists to the studios to be recorded on lacquer discs and to be used in programmes. There was also cooperation between Finnish folklorists and the Estonian Broadcasting Company. The Folklore Archive purchased its own disc recorder in the 1940s. This was used until the early fifties, when tape recording revolutionized the entire concept of sound recording. With the introduction of tape, the sound collections began to grow at such a speed that in 1953 they were placed in a separate department of their own. Since 1957, annual accessions have varied between 200 and 500 hours.

### EQUIPMENT

In 1976, the first experiments were made with videos. At that time recordings were made on borrowed equipment, and collections amounted to only a few dozen hours. Technical progress seemed to be so rapid that the archive decided to bide its time and then invest in 'decent' equipment that would, we thought, last us for years. However, soon after we had purchased a big U-matic camera, VHS equipment came onto the market. The VHS recorders were much smaller and easier to move about. This made

them far more practicable in the field, and nowadays the old equipment is of little more than museum interest.

Similar technical advances have been made in sound recorders. Just at the moment DAT recorders are really on their way in, but we have not yet invested in them as the batteries still leave something to be desired.

From the archive's point of view it seems a pity to have to maintain equipment for outdated recording techniques, because we cannot keep transferring everything to each new format. From time to time we also receive material collected by other researchers that can only be played on the old equipment. In order to make our oldest cylinders and discs easier to use we have twice transferred everything onto tape, first in the early sixties and again in 1984. Since the advent of digital technology we are now faced with the prospect of transferring the material yet again. Hopefully the fragile originals will last until we can afford to make this third transfer.

### COLLECTION

All in all our collections amount to close on 14 000 hours of sound recordings. The ratio of spoken word to music is roughly the same as in the manuscript archive: there is more spoken material than music. The reason for the greater proportion of archaic folk tales and legends, beliefs, memorates, ethnographical descriptions and biographies is that many of the manuscript projects were especially concerned with the prose tradition. As regards folk music, it has been possible to collect a considerable volume of archaic songs and laments even though many of them had more or less vanished by the time the collectors arrived in the field. There is, however, only little archaic instrumental music.

We do, however, have extensive collections of more recent folk music, rhyming songs and what we call 'pelimanni' music, dance music played on the fiddle, clarinet or accordion. Another interesting item in our collections is about 300 hours of the traditions of Finland's gypsies. There are also recordings of Finnish emigrants to America.

Today we are once again able to make expeditions beyond the eastern border, to the former Soviet Union. Following the disintegration of the Soviet Union the borders have been opened up and it has been possible to travel to Archangel Karelia, Olonets and Ingria, which still have a Finnish-speaking population. We have also been trying to record the tradition of more distant Finno-Ugric peoples such as the Mordvins and the Maris.

In addition to collecting and recording material one of the main tasks of the sound recording archive is to make the materials available to researchers and others. The folklore archive is an open, public archive, which means that the material must be catalogued for use. No material may be taken out of the archive, but we do make copies for scholars to take away. The Finnish Literature Society also publishes studies based on the archive's collections and anthologies of materials. It has also published records and cassettes.

## THE FINNISH FILM ARCHIVE

*Erkki Muinonen, Finnish Film Archive*

### HISTORY

The Finnish Film Archive was founded in 1957 by a group of young cineasts. Their goal was to save the Finnish film heritage and to promote film culture by publications and screenings. The archive became a member of FIAF in 1958.

In 1979 the archive became a state institution under the Ministry of Education. Since 1984, Finnish film producers have been required by law to deposit copies of their films within five years of their completion. Legal deposit also applies to video cassettes distributed in Finland in quantities of 50 or more copies. Earlier Finnish films and subtitled foreign films shown in Finland are acquired through voluntary deposit.

### STOCK AND STAFF

Today the archive has a staff of 43. The collection consists of circa 36 million meters of film. It includes prints of 700 Finnish long features and about 17 000 short films, as well as more than 20 000 foreign films, long and short. In addition the archive holds large collections of photographs, posters, scripts, museum objects and other materials related to films, as well as a large library.

### STORAGE

Films are stored in the neighbourhood of Helsinki, in Otaniemi and Tuusula in underground vaults which were taken into use in the late 1980s. Temperature and humidity are kept at precise levels. The Tuusula vault is used for nitrate-based films. Deteriorating film materials are preserved by recopying them and restoring them to their original version.

### USE

Films stored in the archive are used primarily for research and educational purposes. Other use is possible only with permission from the party holding rights to the film in question. The archive has its own cinema in Helsinki (216 seats), where hundreds of films are screened every year.

# THE RADIO ARCHIVE OF THE FINNISH BROADCASTING COMPANY

*Lasse Vihonen, Finnish Broadcasting Company*

## BACKGROUND

Radio broadcasting began in Finland in the early twenties. During the years 1923 - 1929 there were about ten small radio stations around the country. They were operated by local radio clubs. Often the members of those clubs also made the transmitters and the other technical equipment they needed for broadcasts.

At the beginning of 1926 these amateurs and other organisations established the Finnish Broadcasting Company. The state also participated in the company as a minority shareholder. The new company started its activities in September 1926. The Finnish Broadcasting Company bought out all its small rivals over the next three years and the State bought the majority of the company's shares in 1934. After that year the Finnish Broadcasting Company - YLE - had in practice a radio monopoly in Finland, which remained unbroken until 1985.

When the Finnish Broadcasting Company started to transmit programmes in 1926, it had no recording equipment. All the programmes were live and this situation continued until 1934. At the end of that year the company bought its first recording system. This was a disc recording machine from Germany. The first official programme recorded was the New Year's speech of the President of Finland, Mr Pehr Evind Svinhufvud, broadcast on the 1st of January 1935.

YLE used these lacquer discs until 1955. Just before the Winter War broke out 1939 the Company bought its first tape recorders - Magnetofons - from Germany. The Company purchased twelve recording machines and leased a further twenty so that the Company had altogether thirty two recorders. These tape recorders were intended for next year's Olympic Games which were scheduled to take place in Helsinki. As you know those Games never took place.

These tape recorders were easy to use if we compare them with the disc-cutting method. But when the second World War broke out the company could not get enough tapes. Because of the lack of tapes they had to reuse the same tapes, and for this reason we do not have many programmes in our archive dating from the war period and from the late forties. From my point of view it was a good thing that during the War and for some years after the company still produced on disc. Because they couldn't reuse these lacquer discs we still have about 4000 of them in our archive and we have been able to copy several hundred programmes from them.

In the thirties and forties the technical department took care of tapes and discs. The reason for this was obvious. The number of tapes and discs was modest. But at the beginning of the fifties the economic situation began to improve and the company was able to buy more recorders and tapes. Then the company established its first programme archive, the "tape archive", in 1955. When the archive started its activity it had only 6000 tapes which it had inherited from the technical department. And the main task of the archive was to take care of daily tape transportation. It received the

programme tapes from production studios and delivered them in time to the continuity units. This task is still one of the duties of the present archive.

## ARCHIVES

In 1961 YLE established the radio sound archive. It had and still has a more "archival" task. The sound archive catalogues the programme tapes in greater detail and helps the programme makers to use that material. The archiving system our company now follows originated in the seventies.

In 1971 a new radio responsibility law was passed. This law prescribes that we have to preserve all the programmes on tape for three months after broadcasting. In accordance with this law our company records all programmes constantly on a special reference tape. This special sixteen track-recorder is located in the switching centre of the radiohouse in the Pasila Radio- and TV-centre. The tape speed is very slow, only 2,5 cm per second. Every radio channel goes on to a different track together with TV sound tracks and also our local and international programmes on their individual tracks. On one track is the speaking clock, so that we know exactly when every programme has been broadcast. One tape can record over 24 hours. In the switching center there are one hundred reference tapes. We use these tapes in rotation. For example when we use the tape recorded today again, three months have elapsed and we have fulfilled the provisions of the law. At the moment Finnish radio stations do not have any other legal obligations to archive their programmes.

The radio archive, which includes the tape archive and the sound archive, does not handle reference tapes but only the original programme tapes. Our company has four nation-wide radio channels, three Finnish and one Swedish channel. We are responsible for the programmes which are prepared on tapes before broadcasting. Every day our tape archive receives about fifty programme tapes made for these four channels, about 17,000 tapes annually.

## SELECTION

We have divided the program tapes according to their storage or selection time into three categories. The shortest category is called "working tapes". If the producer of the programme thinks that the programme is not of great importance and he cannot use it again as a repeat, he or she puts a cross in the particular box in the production information sheet. The production information sheet is a very important document. The editors and the producers have to fill in this paper during the production process. One part of this sheet follows the tape in a folder to the tape archive. When the person on duty in the archive receives a tape from continuity and notices that it is a working tape, she or he puts it on a special shelf in the storage room. Our staff will take the tape one month after the broadcast from the shelf and bring it to the control unit, where the tape will be demagnetized, checked and returned to the production studios.

If the producer does not know if he or she will use the programme tape again, he or she can put a cross or a number from one to nine in a box called "service tape". If the producer has put down a cross or number one, our data processing system takes the information regarding that programme one year after the broadcast on the questionnaire list. Then we send the list to the producer and he or she has to decide whether he wants to keep the tape permanently or if the archive can erase the tape. If

the producer thinks that the programme has permanent value, she or he then puts a cross in the box "archive tape". In this case we keep that tape permanently without any question.

As I told you earlier, our tape archive receives about 17 000 programme tapes annually. About 30 percent are working tapes, 50 percent service tapes and 20 percent archive tapes. These service tapes are again divided according to our statistics so that fifty percent are erased and fifty percent are kept permanently. This means that our archive is growing by 8000 new tapes a year. We now have about 260,000 programme tapes altogether in the archive. At the moment our storage space is almost full. That is one reason why our company is now using more DAT-cassettes. But generally speaking the situation of YLE's radio archive is still in reasonable condition.

I said earlier that the radio monopoly of YLE was broken in 1985. Nowadays in Finland there are about 60 commercial radio stations which by law have to record their programmes and keep them for three months after they are broadcast. This they do but in practice they have no real programme archives. A couple of years ago the Ministry of Education made a proposal that the law ought to be changed so that all the national radio programmes should be kept permanently and that the commercial radio stations should also permanently retain some samples of their own programmes. In the proposal they also suggested that the state should establish a national radio and TV-archive. Because of our bad economic situation these suggestions probably will not be carried out in the near future. In this situation our archive is the one and only radio archive worth mentioning in Finland. I hope that we won't have to bear this responsibility for ever.

## THE RECORD LIBRARY OF THE FINNISH BROADCASTING COMPANY AND THE COLLECTION OF SUOMEN ÄÄNITEARKISTO

*Pekka Gronow, The Finnish Broadcasting Company, Helsinki*

The record library of Yleisradio, the Finnish Broadcasting Company was founded in 1934 by Alvar Andström, who had previously been the pianist of the radio orchestra. From 1935 to 1963 Andström worked full-time as the record librarian, first alone, later with a number of assistants.

Like other large broadcasting organizations, Yleisradio used records regularly in its broadcasts, and the main function of the record library was to acquire and store such records. At first, acquisitions policies were restrictive, and many Finnish recordings which were not considered suitable for broadcasting were rejected. However, records were systematically catalogued and carefully preserved, and with time the significance of the collection increased beyond its daily use.

With the expansion of radio programming in the sixties, the need for recordings increased. Under Antero Karttunen and Lars-Olof Landen the acquisitions policy was revised, and since the late sixties the library has attempted to purchase a copy of every Finnish recording published. Of course large numbers of foreign recordings were also obtained. The cataloguing system was modernized in 1965, and since 1974 all new acquisitions have been documented in a computerized system.

### STOCK

Today the record library holds about 400,000 sound recordings. Besides commercial discs and cassettes the library has about 20,000 items on open-reel tape, dating from the early fifties to the present. These recordings, for which the company owns unlimited broadcasting rights, feature mainly serious music by Finnish composers and performers. The recordings are currently being transferred on recordable Compact Discs which have proved quite practical in studios.

Annual acquisitions are between 6000 and 7000 records. As most of them are obtained in duplicate, the actual number of copies acquired is around 15 000. The average number of daily loans is about 700. In addition to four national channels, the record library also services to some extent the company's 15 regional stations. The library's catalogue is accessible on-line to most producers on their own working stations, including regional offices.

Since last year the catalogue has also been available on-line at the Helsinki Public Library, and next year it will be available to all interested public libraries. Finnish Broadcasting Company has also adopted a more liberal policy as regards the use of its recordings outside the company, and the record library is now able to make tape copies to outsiders of any recording made before 1961.

Suomen äänitearkisto, the Finnish Institute of Recorded Sound was founded in 1966 by a group of collectors and researchers who were alarmed by the fact that there was

no organization in the country with the task of acquiring and preserving a complete collection of Finnish recordings. Among the founders were several recording industry executives who pledged to donate free copies of all their new products. As a consequence, Suomen äänitearkisto was since 1966 able to build a nearly all-inclusive collection of Finnish recordings. At the same time the organization also set out to obtain as many older Finnish recordings as possible. Through purchases, exchanges and gifts the collection grew rapidly.

## CATALOGUES

Suomen äänitearkisto also strived to compile a national discography, which would simultaneously function as a catalogue to its collections and as a "wants list" of records still required. The first large volume of the Catalogue of Finnish Recordings covered the years 1946-1966. Since then catalogues of new releases were published annually. At the same time several retrospective catalogues were also compiled and published, covering the years 1920-45, recordings issued before 1920, and Finnish-American recordings. Current work concentrates on the revision of older catalogues.

Much of this work was done by members on a voluntary basis. The printing of catalogues and purchases of collections were financed by occasional grants, often from the recording industry. Through its existence the archive has never had any full-time staff. As a consequence, the collections have never been open to the public on a regular basis, but serious researchers and compilers of discographies and reissues have usually been given access.

The founders of the archive had hoped to see the archive one day as a public, state-supported institution like the Finnish Film Archive or the British Institute of Recorded Sound. In 1981, Finland introduced legal deposit of sound recordings. Copies of new recordings were now deposited in the Helsinki and Jyväskylä University Libraries. Suomen äänitearkisto now discontinued collecting new materials, and there were discussion to combine the archive's collection with the legal deposit collection of the Helsinki University Library.

However, discussions never led to concrete results, and the Board of Suomen äänitearkisto never became convinced that the university would be able to carry responsibility for the role of the national sound archive. In 1989 the collection was moved to Broadcasting House, where it now physically forms part of the record library.

Suomen äänitearkisto is a voluntary non-profit organization which still owns to collection. The organization continues its search for missing records and better copies of records already acquired, supports discographical research and cooperates with record companies reissuing historical recordings on Compact Discs. Recently there have been about a dozen CDs every year drawn from the collection.

The current recession in Finland (20 per cent unemployment) has effectively put a temporary stop to discussions concerning the future of the collection. It does not seem likely that it will ever evolve into an independent public institution. But with the projected development of digital mass-storage systems, the physical location of recordings may not be important any longer.

# CATALOGUING

## IASA CATALOGUING RULES FOR AUDIO-VISUAL MEDIA CATALOGUING AND DOCUMENTATION COMMITTEE PUBLICATION PROJECT

*Mary Miliano, National Film and Sound Archive, Canberra, Australia*

Report to the Open Session of the IASA Cataloguing & Documentation Committee at the IAML/IASA/IAMIC Conference in Helsinki, 1993

### BACKGROUND

In 1991 FIAF published The FIAF Cataloguing Rules for Film Archives compiled and edited by Harriet Harrison for the FIAF Cataloguing Commission. It is a set of rules for cataloguing materials held in moving image archives and its immediate purpose is to provide a means of facilitating the exchange of information between and among archives so that cataloguing records created in one archive may be readily interpreted and understood in another archive. This goal supports the basic aims of FIAF as set out in Article I of its Constitution. The need for these rules were for the following reasons:

1.1 Computerisation and telecommunication costs were decreasing rapidly, therefore increasing the possibilities for effective international co-operation and communication in turn requiring the use of standards;

1.2 Developing archives, who were just beginning cataloguing work, were looking to the Commission to provide them with recognised standards upon which they could rely;

1.3 ISBD (NBM) had already achieved international recognition among library professionals worldwide. While its rules, directed as they were to generalised collections of widely available audio-visual materials, did not solve the technical and scholarly information needs of moving image archives, they could serve as a model for FIAF upon which it could build and develop a set of cataloguing rules which addressed basic principles of archival moving image cataloguing.

### 2. IASA CATALOGUING RULES PROPOSAL

During the 1992 IASA/ASRA Conference in Canberra, the notion of publication of IASA Cataloguing Rules came into sharp focus through the Open Board Session and later in the IASA Board/Committee Officers/NAOC meeting.

In the following months we decided to hold a one day pre-Conference Symposium at the 1993 Helsinki Conference to discuss this proposal.

### 3. HELSINKI PRE-CONFERENCE SYMPOSIUM

We held the Symposium on Sunday 8 August and it was open to all interested. 15 persons from 7 countries attended. Two working papers were circulated at the session:

A Preliminary Issues discussion paper by Mary Miliano; and.

Cut outs in provisional [English] transcription of the ÖNORM A 2653 :  
Formale Erfassung audio-visueller Medien = Cataloguing of audio-visual media prepared by members of AGAVA.

In addition, the recently finalised danbib-format, version 1.0 was tabled at the Symposium.

In summary, the Symposium was informed of the issues addressed by the ÖNORM A2653 and the meeting agreed with the points raised in the first section of the Preliminary Issues paper for the scope of the IASA Cataloguing Rules. Some small amendments and additions were made to these. The details agreed on are as follows:

### 4. SCOPE OF THE PROPOSED IASA CATALOGUING RULES

The rules are to:

- 4.1 complement other international standards (e.g. AACR2, ISBD, MARC );
- 4.2 draw on existing national and institutional concepts and solutions, etc. (e.g. ÖNORM A2653 (Austria) and RAK (Germany,) as well as cataloguing rules from France, Spain, Australia, etc.);
- 4.3 support use of computers, exchange (and sharing) of data and networking.

They are to address:

- 4.4 different levels of description:

compilations of recordings (e.g. LP's, compilation preservation tapes made by such archives at the Institute of Jazz Studies at Rutgers University and at the NFSA);

individual tracks/bands (analytics; multilevel description);

collections of sound recordings;

- 4.5 accompanying materials;
- 4.6 published, unpublished (including field) and broadcast sound recordings;
- 4.7 copyright;
- 4.8 audio-visual materials rather than just sound recordings. For instance, we had asked the question:

Should the rules also address videos where the video and laser disc formats are competing with / replacing the LP and CD formats in the market and where the content and intent of creation of the work is possibly closer to that of recorded sound rather than that of film - eg. opera productions, pop videos,

OR

Should we just assume that cataloguers know that they need to combine and reconcile the rules for cataloguing music and for performances of music (i.e. for printed music and recorded sound) with the rules for cataloguing moving image when they work on these videos and laser discs?

4.9 ethnomusicological videos, and video histories (as against oral histories);

4.10 physical description;

4.11 series and sub-series;

4.12 description of:

commercial re-issues of recordings (confirmation of when these are the same work and when are they different works);

digital and stereo re-mastering and re-issue of acoustic and mono recordings. (We do not mean to imply here that this is a normal practice within technical and publication areas of archives but that we acknowledge that it does happen and so should be included);

4.13 place and date of:

- recording (capture)
- issue
- manufacture
- broadcast

4.14 how and why the recording was made;

4.15 titles:

- title proper (descriptive title);
- uniform title;
- conventional title (i.e. for form headings);
- title added entries;
- cover titles (e.g. variation of title in packaging / sleeve from label title or title frames in a video record);
- series titles;
- parallel titles;
- work title (i.e. "interim" title used by broadcasters);

4.16 names and functions (e.g. Composer, Interviewer, Sound Engineer, "Akteur");

4.17 special examples are to be included for:

Music: classical  
popular (including jazz)  
folk & ethnographic  
Spoken word: readings ; speeches  
interviews; oral histories  
conference proceedings & lectures  
Radio : serials; radio talks  
advertisements  
news broadcasts  
TV and Radio FM simulcasts  
sport; vox pops (i.e. short interviews with people in the street)  
Sound effects (man made and machinery)  
Actuality  
Wild life / Scientific recordings / Bioacoustics  
Natural (environmental) sounds  
Film sound tracks  
Any other types of recordings deemed necessary.

4.18 We plan to prepare the rules in English and then have them translated into French, German and Spanish.

4.19 The rules will not address subject headings. Each country should have its own subject headings.

## 5. DIRECTION OF THE PROJECT

5.1 We plan the time frame to be a minimum of two years and a maximum of five years.

5.2 An editorial committee has been tentatively established with ten participants. In many cases these persons will need to confirm their ability to participate depending on the support of their institutions.

5.3 Mary Miliano has agreed to convene the project for the first twelve months and has recommended that this be reviewed at the end of that time.

5.4 The Editorial Committee will need to liaise closely with the IASA Technical Committee especially; and in general with the Technical Co-ordinating Committee (TCC) of the International Federation for Audio-Film- and Television Archives.

5.5 We warmly encourage and invite IASA members to contribute and we will seek the support and comments from the Cataloguing Commissions of FIAF, FIAT and IAML.

5.6 We shall depend on the support of IASA to assist us to meet and to prepare the publication.

5.7 A definition of "Audio- Visual" will be necessary to help us determine the media scope of this work. At present "Audio-Visual" means different things to different people.

5.8 We shall need to clearly define key cataloguing concepts, problems and realities for sound and other audio-visual media to be addressed in these cataloguing rules.

## 6. INTENDED RESULTS

The final result of this work is intended to be an internationally acceptable publication of standards which we can all use and which will also assist cataloguing in new audio-visual archives and in audio-visual archives in developing countries.

## 7 COMMENTS FROM THE FLOOR OF THE OPEN SESSION

7.1 Gerry Gibson advised that IASA had just set up a Working Group to Determine a Definition for Audio-Visual Materials and that Ray Edmondson and Rainer Hubert were in this Working Group. He recommended that the Cataloguing Rules Working Group liaise with the A-V Definition Group and also invited IASA members to contribute to the A-V Definition Group's work. He commended the effort of the Cataloguing Rules Working Group to date, looked forward to receiving postings from it and indicated that he believed that IASA would provide support as far as possible.

7.2 Helen Harrison asked that the IASA Information Bulletin be used to gather any information required, as not all members are able to attend conferences. Therefore this and the IASA Journal are our one link with the full membership.

7.3 Dietrich Schüller asked how any potential editorial conflicts with the FIAF Cataloguing Rules would be resolved, particularly in the case of videos. Rainer Hubert recommended that we would discuss these with Harriet Harrison and Mary Miliano confirmed that we would need to negotiate solutions to such problems.

7.4 Giorgio Adamo urged that the problem of terminology be addressed, for instance for Statement of Responsibility. He noted that 'Producer' may have different meanings in different countries and also different meanings for film and sound. In Italy, UNIMARC had been adopted for practical reasons to address this problem with terminology. Giorgio was not sure if the Italians may in time also adapt UNIMARC.

## THE CATALOGUING OF AV-MEDIA

*Rainer Hubert, Österreichische Phonotheek, Vienna*

Paper presented to the Cataloguing Open session at the IASA/IAML/IAMIC Conference in Helsinki 1993

A working group for cataloguing was formed recently within IASA and this may be the occasion to give a short glimpse of pertinent activities in Austria, for this new working group is not so much a beginning but rather the consequence of efforts reaching back many years. The members of this group have been working together in another committee for AV-cataloguing rules for a rather long time and have come to similar views towards cataloguing. Therefore it seemed logical to go on and further with discussing the problems of AV-cataloguing - even after finishing the mentioned rules.

So when reporting about this cataloguing group of AGAVA I will rather speak about ideas, concepts and plans, not so much about a group of persons.

The first systematic attempt to come up with cataloguing standards for AV-media in Austria was made in the middle of the seventies. Under the auspices of the Austrian standards institute some AV-archivists and quite a few librarians came together and devised provisional cataloguing rules. They were derived from the model of libraries rules or rather overshadowed by them. The AGAVA protested and suggested some changes and I was asked to articulate our objections and it ended as things like that very often do: I was invited to join the group and my involvement with rules work began. Meanwhile some other "AV-guerrillas" also entered the group and so the outlook changed a bit. New aspects were brought in: for example we added a new field in the bibliographic description - a field to contain all data relating to the creation of the medium. That is, this new field aimed at unpublished material, for which of course no publication data would exist. This was necessary, because there was one - in my eyes very wise - starting point of the rules, that they should concern themselves with published as well as unpublished material. How difficult this is and what problems arise especially when dealing with unpublished media we only realised in the years to come. - Nonetheless we reached an end at last and - after "pre-rules" in 1979 - the ÖNORM A 2653 - let's call it the "first" ÖNORM" - was officially approved in 1983. It left a lot to be desired, but was on the other hand a first step in more or less the right direction.<sup>(1)</sup>

Some years later a revision of the rules was necessary, mainly because so many new media had come into being and they had to be included. The working group of the standards institute met again - and this time there was a higher percentage of contributors coming from AV-archives. At first we were not entirely sure if it would make sense to go on with the work, because we saw, that the existing "first ÖNORM" was not applied very much and that the catalogue practice of several AV-archives and médiathèques differed widely. We were not sure, if it would be possible to bring all the necessary factors under one heading.

When we started at last, we were convinced, that only substantial changes - not only

adding some new media - could make the revision worthwhile and only then it would be possible to meet the case. It was far from easy to find new solutions and it was especially difficult to attain concord in the main points of our reform. It was a very time-consuming process which involved endless discussions, even quarreling, coming up with new ideas, leaving them aside the next time and devising new ones, producing version after version of a rule or of parts of it. It was stressful, sometimes boring, quite often fascinating. It is strange, that such a remote subject as cataloguing and its very esoteric details can produce such vivid discussions and stir up so many emotions. But it did it alright!

In the end, after years, in 1991, we had new, "second", ÖNORM A 2653 - and we had found a particular outlook on cataloguing. We had come to a common position agreeing about the main points - more or less.<sup>(2)</sup>

All problems however are not solved with one cataloguing standard and we felt, that we should go on with the exchange of opinions, with the discussion of experiences with the new rules and of basic questions of AV-cataloguing. The rules work as such ended, but we decided to continue meeting within AGAVA on an informal basis.

Before particularizing let me summarize the main points of the standards, or the main ideas of our group. It has to be a :

1. Multimedial approach, based on a special concept of the term "audiovisual"
2. Comprise published as well as unpublished material
3. Include elements of the content analysis in the bibliographic description
4. Aimed at computer cataloguing, that is omitting some old traditions of librarianship.<sup>(3)</sup>

Back to **point 1.**, the multimedial approach. - The reason for coming up with rules for all AV-media is twofold - practical and philosophical:

a) Most of the institutions using AV-media have to catalogue more than one kind of medium. It doesn't make sense to employ two or even more different cataloguing rules for different kinds of AV-media in one institution.

b) The basic similarities between different kinds of AV-media are overwhelming: AV-media are analogues of optical and/or acoustical processes or situations. These analogues are produced by machinery. What constitutes an AV-media is not so much the fact, that most of them need technical equipment for their reproduction, but that they need it for their coming into existence, for their production. So the AV-media in the full sense are sound recording, film, video and photography. Practical reasons suggest however, that media like the overhead transparency should be treated analogously.<sup>(4)</sup>

When defining the range of cataloguing rules for AV-media this also should include some concepts about the position of AV-media within the bigger frame of the information media as such, that is their relationship to printed matter, paper records and so on. One has to think about the different models, which librarianship or archival science offer. I cannot go into this in full length. Only one remark, which is very important to me:

There is a term, a concept, often used, especially by librarians, which I detest: Non-book-material. This term includes a kind of division of the information media as such: on one hand printed matter on the other the "rest", all other media. The term combines extremely heterogeneous material. It makes things unclear and sounds racist to me: on one side there are the "whites", the books, on the other all other races, respectively media, the "Coloured", the "Non-book-materials". This is particularly absurd, because books make the most special field of the information media: media, styled by the publishing process, which gives them unique hallmarks. When dividing information media into book and non-book-material we measure the very general - all media without books - by the very special, the printed matter. This invites disaster in the long run.<sup>(5)</sup> Therefore when coming up with our multimedia rules we had also to tackle some very basic questions. Having said this I have to confess, that this is my special interest or hobby-horse and not all of the members of the group will feel so strongly about "non-book-material".

This diversion should not be misunderstood: we did not look for such basic questions: we were driven to discuss them because of the practical problems encountered.

Now a remark about some regulations which seem necessary to us, when comprising different kinds of AV-media or other different media in one catalogue. There is of course one field for a detailed technical description. But this is not enough. The kind of AV-medium in question have to be given as a final last point of the title proper as such. Only then will the user know with what kind of medium he/she is dealing with, when reading a list of short titles: Macbeth [tape].

**Point 2:** The ÖNORM includes published as well as unpublished material. - Cataloguing rules for published AV-media do not abound, but they exist. For example RAK (Rules for the alphabetic cataloguing) - on which ÖNORM A 2653 is based in several respects - also contains special rules for published AV-media. These rules however not only exclude unpublished material, they are also made from the point of view of libraries which also have to deal with "non-book-material". So they follow too closely the model of the cataloguing of printed matter. That at least is my opinion. AV-archives cannot apply these rules anyway, because in their holdings, published as well as unpublished material is mixed. It was our wish, that they all should be treated by the rules in order to enable us to make one catalogue for all our holdings. As far as I know ÖNORM A 2653 is the first cataloguing standard to give the same weight to unpublished as to published media.

The main problem of that approach is, that you have to make provisions for very different needs. You have to bring together the outlook of an AV-librarian who is only cataloguing for example music-CD's and the point of view of a cataloguer in a research archive for example cataloguing stills of burning volcanoes.

With this we come to the next item:

**Point 3:** Special requirements for unpublished material, that is including content in the bibliographic description.

When dealing with unpublished media you have to give a lot of data yourself. No publisher puts data onto the carrier which you have only to transcribe in a particular way. You have to give a title, a subtitle etc. by yourself.

Some special problems occur when dealing with unpublished recordings which are not works. What do I mean with that? A work is the final product of a often long process of forming and styling. The author, the publisher, are giving it a particular form. In a work not only the content counts, but also the form - and it is the form, which is used for the bibliographic description. A lot of unpublished recordings - I call them "documentary recordings" - are not works in that sense. They record something which is not shaped for being recorded. They record independent processes. - A typical work would be a disc of an opera, a typical documentary recording would be a tape recording of the street noise on the Ringstraße in Vienna on October, 3rd, between 9.30 and 11 o'clock. In one case - the opera - mainly formal data are catalogued, in the other case nearly only the content itself is catalogued; the noise as such is described. This means that the classical division between bibliographic description and the later analysis of the content is not applicable for our needs. I should explain here, that this division is very important and strictly executed in Austrian libraries, especially in the big ones. The formal cataloguing, the bibliographic description, is done by cataloguers with a high school background; the analysis of the content comes later, sometimes weeks or month later, and is only made by cataloguers with an academic background.

One area, where this division is especially unwise is in the author field. Normally here only persons taking a part in the creation of a work and in its publication are mentioned: the author, the composer, the translator, the singer etc. But what is to be done with documentary recordings, for example the filming of an every-day-live event? What is to be done with John F. Kennedy when cataloguing the famous amateur film of his assassination? Following the classical division between formal cataloguing and content analysis "Kennedy" would be a subject heading and this subject heading would be given only after the cataloguing. We thought that it is much better to combine this, that is to include "Kennedy" in the bibliographic description as such. We managed this by creating a new class of persons playing a role in relation to the recording: "Akteure". By this we mean persons or beings recorded in acting on their own. "Akteure" do not act because they are recorded. They follow motives of their own. Coming up with this category of persons, animals or even things is a kind of a trick: it enables us to include "hidden" subject headings in the bibliographic description.

Not only tackling documentary recordings is tricky sometimes; some other types of work can make trouble too. I will mention here a problem not dealt with in the ÖNORM - as I said the ÖNORM is only a beginning. Some recordings have, so to say, different levels, different strata of works - a work within a work within a work. This is true with books too when you take into consideration that they have the level of the author writing a literary work and the level of the publication of the already existing literary work, which leads to the work in its printed form. But these are only two strata and they are very easy to discriminate. No user has problems to differentiate between the author and the publisher in the catalogue entry. But think of a case like this: a play which is performed in a theater and, at the same time, is recorded and broadcast by a television company some days later; this transmission is then recorded by an audiovisual archive. This makes a big bundle of data which has to be brought into the catalogue in a way that makes clear what refers to what. There are lots of persons referring to different work strata; there are different dates and so on. This is not very easy to solve and no patent solution exists. To discuss problems like that it seems important to me that our group goes on with its work.

**Point 4.** Our rules can be used for conventional card catalogues. We have some special requirements for that. Basically however we aimed at computer cataloguing. So the order of the fields is of secondary importance. No heading is necessary; we need not trouble ourselves with the question of whether the recording will have its entry under the heading of the author or the title (for example in the case of anonymous works). All entries are made under the title.

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2) Formalerfassung audio-visueller Medien, ÖNORM A 2653, Oktober 1991, Wien, ON, 1991

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3) for the following remarks on the ÖNORM:

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## SHARED CATALOGUING RESOURCES BY THE ALB AND THE SWEDISH RADIO

*Olle Johannsen, ALB, Stockholm*

**Paper presented in the Cataloguing Committee Open session at the IASA/IAML/IAMIC Conference in Helsinki 1993**

In 1978 the Swedish Parliament passed the Statutory Deposit Act. The Act specified that the deposition requirement which applied to printed publications should be extended to certain audio and video recordings.

The Act also provided for the establishment of a new government institution to be called Arkivet för Ljud och Bild (the ALB) - the National Archive of Recorded Sound and Moving Images. The Act came into force in January 1979, and the ALB was established at the same time.

Among the categories of recordings that must be submitted to the ALB are all recordings of nationwide radio programmes broadcast by the Swedish Broadcasting Corporation (hereafter called the Swedish Radio). The Swedish Radio makes recordings of the programmes continuously, and the recordings are later submitted to the ALB. Until 1993 the recordings were made on reel tapes at half the normal speed, in mono. These recordings have a low technical quality, which implies that they cannot be reused for programme purposes. But from 1993 the recordings are made digitally on streamer cassettes, in stereo. These recordings can well be used for broadcasting.

At the outset the ALB did not receive any resources for comprehensive cataloguing of the collections. It was taken for granted that already existing catalogues would be used and that, where this was not possible, co-operation with other cataloguing institutions would be sought.

In 1987 the ALB received funds to purchase its own computer system. As a result of this, new possibilities were created for building up a catalogue system. And since the Swedish Radio no longer were cataloguing all their broadcasts, the ALB had to create a radio catalogue. Three cataloguers were employed and the cataloguing commenced with the year 1987.

The Programme Archives (hereafter called the Radio Archive) at the Swedish Radio keeps 10-15% of the nationwide broadcasts on tape. Until 1990, when the archive purchased a computer system, only those 10-15% were catalogued. But from 1990 all programmes that have been recorded beforehand are catalogued by the archive. This means that many radio programmes are being catalogued twice, both at the ALB and the Radio Archive. But the two databases do not have identical contents. All the programmes broadcast from 1987-1989 have been catalogued by the ALB, whereas the Radio Archive only has catalogued about 10-15% from that period. On the other hand the Radio Archive has catalogued all selected recordings of the broadcasts from 1982-1989, whereas the ALB has nothing from that period in its database.

In 1992 the ALB and the Radio Archive formed a group that should look into the possibilities of sharing cataloguing resources. This group submitted the following instructions for a report on future co-operation:

## **AIM**

The aim is to create a catalogue, as complete as possible, containing the nationwide broadcasts from the Swedish Radio, by sharing cataloguing resources between the ALB and the Radio Archive.

## **CONDITIONS**

- both parties should have the possibility to search on line in the two databases. (The ALB has a free text system called BRS Search, which is based on STAIRS, and so is the system called TRIP, which is used by the Radio Archive).
- the information (complete catalogue records or parts of them) should be transferrable from one database to the other
- the catalogue records should be structured in a way that makes it possible to convert the information into the MARC format
- as much information as possible should be transferred from other existing databases or word processing files at the Swedish Radio (some of the editorial offices have databases or files of their own)

## **PART 1: SURVEY**

- investigation of what broadcasts, what periods of time etc. that the two catalogues contain
- investigation of elements of information and structures in the two catalogues
- description of how the cataloguing is done today, step by step
- specification of what the catalogues, and each catalogue record, must contain

## **PART 2: PROPOSALS FOR THE FUTURE**

- description of responsibilities for the ALB and the Radio Archive; that is, of how the cataloguing resources should be shared
- description of where and how to get all the information needed for the cataloguing
- description of the structure of the catalogues and the catalogue records
- description of how the cataloguing should be done, step by step
- date for start of the project

In the spring of 1992, Harald Henrysson at the Radio Archive and I started to work on Part 1 in this report: the survey. We compared the two databases with regard to contents, structure, elements of information, and we described how the work was done and, finally, we specified what the catalogues must contain.

It showed that the greatest problem when converting catalogue information from the ALB to the Radio Archive seems to be that the ALB uses one catalogue record for each programme, and only one paragraph (CONTENTS) for all the information which is not related to the whole radio programme but only to one feature of the programme, for instance contents, reporter, subject classification. The Radio Archive has a different system of cataloguing for the main and added catalogue records. The main catalogue record contains general information about the programme, such as title, producer, date of broadcast, and one added catalogue record is used for every feature of the programme. The main and added catalogue records are linked together in the database.

Consequently, it is impossible to convert the information from one catalogue record in the database of the ALB into several catalogue records in the database of the Radio Archive. So the Radio Archive will have to accept getting all the information from the different features of one program into one catalogue record.

Since then the ALB has purchased a new version of BRS, which makes it possible to use the same system of cataloguing as the Radio Archive. But the problem remains for the material which is already in the database.

Another problem is that the demands for elements of information differ, depending on the different tasks of the two archives. The ALB requires, for instance, only the date and time for the first broadcast of a radio programme, whereas the Radio Archive needs dates for the first and subsequent broadcasts and instead of time for the broadcast it requires the length of every programme and feature.

When this list of demands was established and determined, we compared the two databases once more, paragraph by paragraph, in order to be able to convert information from the database at the ALB to the Radio Archive. A conversion programme has been written at the ALB and everything is now set for a conversion of the years 1987-1989 from the ALB to the Radio Archive.

That is where we are at the present. The next step is to convert the years 1982-1989 from the Radio Archive to the ALB.

What remains to be done in the future is

- to decide how we should share cataloguing resources (we have discussed dividing the channels between us and then exchange catalogue information)
- to make sure that we can get as much information as possible from other existing databases and word processing files
- to adjust our different ways of cataloguing to each other, so that the future conversions will be without major problems

When this is settled we can start sharing cataloguing resources. By doing that we will avoid duplication, and hopefully create a catalogue which is as complete as possible.

## **IASA ANNUAL CONFERENCE 1994**

**BOGENSEE, GERMANY**

**September 2 - 8 1994**

The next conference of IASA will be held in conjunction with FIAT. Plans have been made to hold the conference from 2 - 8 September 1994 and it is anticipated that the postponed Joint Technical Symposium will be held before or after the conference in the same venue. There is a great deal to fit into the time available, but the pattern we hope to achieve for the programme is a couple of days for Board and special committee meetings at the beginning with the opening event of the conference proper on Sunday 4th September. Then four days of joint sessions with FIAT as well as separate sessions and committee work. The conference is scheduled to end on Thursday 8th September when the farewell dinner will be held. In a presentation in Helsinki, the German Regional Branch of IASA, which has taken responsibility for the organisation, indicated that the venue and accommodation for the conference will be in the Internationales Bildungs-Centrum Bogensee, 40km kilometres from Berlin in the Mark Brandenburg. The surroundings are said to be quiet and tranquil which should give ample opportunity for a fruitful and leisurely exchange of views and information.

Professional visits to Berlin will be arranged during the week and among the institutions we are hoping to visit are the Deutsches Rundfunkarchiv in its Berlin location which includes the radio and television archives of the former German Democratic Republic, the Deutsches Musikarchiv, the Bundesfilmarchiv and the Rundfunkmuseum.

Recreational excursions will also be offered to Berlin, and it is expected that a post conference tour will also be arranged.

Local arrangements are being handled by the Organising Committee and further questions can be answered by:

Anke Leenings, c/o Deutsches Rundfunkarchiv, Postfach 10 06 44, D-60320 Frankfurt am Main, Germany.

**WE LOOK FORWARD TO SEEING YOU IN BOGENSEE IN SEPTEMBER**

# TECHNICAL

## BIT RATE REDUCTION

### CHAIRMAN'S INTRODUCTION

*Albrecht Häfner, Südwestfunk, Baden-Baden*

**Papers presented to one of the Open sessions of the Technical Committee at the IASA/IAML/IAMIC Conference in Helsinki 1993**

The Technical Committee devoted a session to three reports dealing with bit rate reduction, or more correctly audio bit rate reduction. The purpose was to enlighten the membership with the concept and the consequences resulting from its use in the field of audio signal transmission and storage.

As consumers we are always happy about cost reductions, and so as sound archivists let us consider whether or not we can be as happy about *information reduction*.

We must keep in mind that any kind of reduction means that we make something smaller, to diminish it or minimise it. To reduce the audio bit rate, that is the number of bits transmitted per second, means that we divide the information content of the audio signal into two parts and throw one of those parts away irretrievably and irreversibly.

The situation is similar to the efforts of some iconoclasts to simplify the orthography by abolishing capitalisation and minimising the number of punctuation marks. It is true that we could justify this idea if we removed redundant or unnecessary information, but on the other hand our predecessors obviously had good reasons to create an orthography with these so-called redundant characters, and we should be aware of this. We can continue to argue the purpose, meaning and benefit of reducing the redundancy in many instances where it is a matter of taste or preference, but the crucial point is reached when we reduce the information until it is irretrievably lost, never to be recovered in the future.

The introduction of audio bit rate reduction seems to me contradictory as we give up a perfect sound quality, the development of which took about a century from Edison's first tin cylinders to the digitally made compact disc. But the digital technique to which we owe that excellent sound quality is exactly the reason for bit rate reduction, as substantially more transmission and storage capacity is required in relation to the analogue technique. Information five times larger than before can be stored and transmitted with its original capacity. This is a strong argument for the supporters of bit rate reduction which should not be ignored by the sound archivist.

But what if in twenty years time, a new technology will enable us to store and transmit unreduced signals once more?

## INTRODUCTION TO BIT RATE REDUCTION

*Dietrich Schüller, Phonogrammarchiv der Österreichischen Akademie der Wissenschaften, Vienna*

Bit rate reduction in the transmission of audio data is one of the latest developments which also affects the world of sound archives in various ways. It is a term for the reduction of data in the digital domain with the idea of no or only little audible influence on the reproduced signal. A more general term for the same technique is *data reduction*. Sometimes we can also find the word *data compression*; this latter term, however, is misleading because *compression* suggests that expansion at the end of the process will restore the original signal. This is not the case, as we will see.

The idea of data or bit rate reduction was born because the full digital signal - as for example standardized in the CD or DAT format - amounts to considerable sums of bits: for a CD with its sampling frequency of 44.1 kHz we have a bit rate of  $2 \times 16 \times 44.100 \text{ bit/s} = 1.41 \text{ Mbit/s}$ . At a sampling frequency of 48 kHz, as with R-DAT, we have  $2 \times 16 \times 48.000 \text{ bit/s} = 1.536 \text{ Mbit/s}$ .

Such an amount of data is not easy to transmit over lines or wireless in broadcast channels. In view of the introduction of digital audio broadcast (DAB) in Germany, and also with the intention to use the new digital telecommunication standard ISDN for the transmission of higher quality audio signals, data reduction was developed in order to squeeze the highest possible audio quality (in terms of perception) through these bottlenecks.

In principle there are two possible forms of data reduction: loss less and so called "lossy" codecs (codec stands for coder-decoder). In the audio domain lossless codecs would only reduce the amount of data by 1.5 to 1. This is not very efficient and therefore such systems would not be powerful enough. Lossy codecs result in a much higher data reduction and have therefore been developed for the purposes described above and also for new consumer audio formats such as the DCC (digital compact cassette) and the MD (minidisc).

The basis of these lossy codecs is *perceptual coding*. This principle is based on the psychoacoustic fact that the human ear does not hear every detail of the entire spectrum delivered through the air to the ear drum. The sound signal as it arrives to the listener contains a lot of superfluous information which can be omitted without any audible difference to the full signal. The most important principle involved is the phenomenon of *masking*, which means that loud (strong) partial tones hide weaker partials in their vicinity. Data reduction algorithms define unnecessary information and transmit only those parts of the original signal which are necessary to maintain the impression of the original sound. With the currently available codecs a data reduction of 5 or 6 to 1 is possible, almost without any audible difference in comparison to the full signal.

A new principle has been developed in contradiction of what has been attempted in audio transmission and recording until recently. The ideal to capture and to restore the original sound as close as possible is replaced by the attempt to transmit and reproduce a signal which sounds *like* the full signal to the human ear but is physically only a small part of it. Lossy codecs, in attempting to create an adequate impression only, throw away data. It is important to understand that such techniques introduce

irreversible transformation. The original sound - how perfect the system may sound to the ear - cannot physically be reproduced any more. Decoding does not restore the original signal and therefore the terms compression/expansion in this context are misleading.

Several codecs have been developed in the course of the last decade. The greatest attempt, however, to arrive at a family of codecs has been carried out within the European research initiative EUREKA in its project EU 147 which combined mainly Dutch, French and German developments. The initiative was taken to combine the efforts to enable digital audio broadcast (DAB), data reduced digital consumer formats like DCC and the intention of a Motion Pictures Experts Group (MPEG) to transmit moving image and sound via networks at low bit rates. This family of codecs has meanwhile been standardized by the International Standards Organization (ISO) as ISO/MPEG codecs.

The codec family consists of three layers. Layer I has a target bit rate of 384 kbit/s for the independent stereo signal and is the least complex codec. Layer II has a higher complexity and a target bit rate of 192-256 kbit/s for the stereo signal. It is almost identical with the codec MUSICAM developed by the IRT (Institut für Rundfunktechnik), the research institute of the German broadcasting stations. Layer III is the most complex layer within the family with a target bit rate of 128-192 kbit/s for the stereo signal. As options joint stereo modi are applicable - as opposed to independent stereo coding - making use of the fact that between the two stereo channels there is a certain amount of redundancy which can be omitted. This allows the reduction of bit rate at the same audio quality or a better one at the same bit rate.

Layer I is applied for the DCC. Layer II is the codec for DAB, and Layer III is intended to be used for the transmission of high quality audio signals over ISDN lines.

The most well known codec outside the ISO/MPEG family is ATRAC developed by SONY for its minidisc (MD). It is similar to ISO/MPEG Layer III but it is not compatible with it.

We should keep in mind that codecs have been developed for transmitting, in an effective but inexpensive way, high quality audio signals to the final user, the listener. Careful listening tests have been carried out especially by the Swedish Radio to evaluate several developments at various degrees of data reduction (see Christer Grewin's report below).

It can be summarized that for listening purposes the codecs mentioned in the survey above lead to satisfactory results: that with the exception of rarely occurring complex signals there are virtually no audible differences to the full signal.

Difficulties, however, arise in the following situations:

\* Cascading. This means a multiple coding/decoding procedure in succession. It will cause audible artefacts after a higher or lower number of successive cycles, depending upon the amount of data reduction.

\* 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 intended, audible deteriorations may occur.

\* Switching between different codec families may again cause audible artefacts.

In addition to these possible audible shortcomings it should be noted that any quantitative evaluation, i.e. the measurement of the original sound signal as a physical entity, as employed in musicology, organology, phonetics, forensic investigation or noise measurement for environmental purposes, can not be carried out in the full sense because the original signal has been irreversibly reduced.

Another argument *vis-à-vis* perceptual coding may lie in the possibility that lossy codecs which may be unnoticeable even for professional listeners in 1993 may be audibly detectable after a generation of training our listening habits. It is known that perceptual abilities can be trained. A good example of this type of unconscious training is the Edison Tone Test in which seventy odd years ago an audience was unable to distinguish between a singer and the reproduction of his/her voice by the best Edison recordings and reproduction machines of that time. In this respect it would be most interesting to repeat the listening tests of Swedish Radio under exactly the same conditions in ten or twenty years time.

#### THE CONSEQUENCES OF BIT RATE REDUCTION FOR SOUND ARCHIVING

First of all the term *archiving* needs a good definition. This term should be reserved for the preservation of history - or historical documents - in the closest possible way to their original state (appearance) for posterity.

An argument frequently used in favour of data reduction for sound archiving purposes is the reduction of storage costs. It is true that smaller carriers occupy less space but it has been shown earlier (Schüller 1988) that the function between storage area (volume) and carrier volume is not linear. The smaller the carriers the greater the percentage of space which cannot be occupied by data but which is occupied by shelves, hubs, containers, boxes, access areas like aisles, etc. Cor L Doesburg (1988), furthermore, has shown convincingly that storage costs are only a small part of the entire costs of a sound archive's operation. Within the ARD (Arbeitsgemeinschaft der Rundfunkanstalten Deutschlands) storage costs are calculated to be 5-10% of the overall costs of a sound archive. If, by the use of data reduced formats, storage areas can be reduced to a quarter of current size such a reduction would mean only a small percentage of the total running costs of an archive. On the other hand such systems require investment in terms of machinery, its maintenance and enormous amounts of manpower for the first transfer; all these costs would be the same for systems storing the full signals. If conservative, stable formats (like analogue archival magnetic tape) are the starting point, then immediate transfer would only be justified by the advantage of future automated access; if only used rarely, further storage in the present form would be cheaper (as long as they don't disintegrate).

In view of the stated aim of archives to *preserve history* the following procedures should be followed for sound archives *vis-à-vis* data reduction:

- 1) No data reduction should be exercised on already existing full signals.
- 2) Data reduction should not be employed in the original recording process when recording is carried out for archival purposes.
- 3) Only signals which were originally recorded using low bit rates should be preserved as such, i.e. using the same codec.
- 4) In the case of mass produced data reduced records such as DCC, MD and others possibly to come, an archive devoted to the "eternal" preservation of such cultural goods should try additionally to obtain copies of the full linear masters of such recordings.
- 5) If an institution decides for any reason to copy its holdings to a data reduced format the full quality documents should be offered to the respective national archival institutions for further safeguarding.
- 6) If an institution like ALB (see Stig Lennart Molneryd's report below) has to keep recordings in a data reduced format, a certain percentage of representative samples of the holdings should be kept in full quality.

#### SUMMARY

\* Data reduction is a very useful instrument in the dissemination of sound for listening purposes. However it limits the further use of the material.

\* It is not the representation of the original physical reality but an attempt to create the impression of it.

\* It may be annoying for future, better, trained listeners.

\* It is not diminishing storage costs.

\* Its financial implications in terms of archiving need better investigation.

\* Data reduction is incompatible with the philosophy of archiving.

#### Literature:

Cor L. Doesburg, *Costs of Storage in Sound Archives*. In: *Phonographic Bulletin* 54/1989, pp. 4-14.

Dietrich Schüller, *Data Density versus Data Security*. Pleading for Formats Suitable for Archival Purposes. In: Orbanz, E. (Ed), *Archiving the Audio-visual Heritage*. Proceedings of the (Second) Joint Technical Symposium, Berlin 1987, Berlin 1988, pp. 85-87.

For data reduction English readers should consult the pre-prints of the Audio Engineering Society Conventions from the 90th Convention, Paris February 1991 onward. German readers will find a good overview in: 17. Tonmeistertagung, Karlsruhe 1992, Bericht. Hg vom Bildungswerk des Verbandes Deutscher Tonmeister. K G Saur, München, London, New York, Oxford-Paris 1993, pp. 44-141.

# QUALITY ASSESSMENT OF LOW BIT-RATE AUDIO CODECS

*Christer Grewin, Swedish Broadcasting Corporation, Stockholm*

Paper presented to one of the Technical Committee Open sessions during the IASA/IAML/IAMIC Conference in Helsinki 1993

## 1. INTRODUCTION

Like most broadcasters the Swedish Broadcasting Corporation has performed, at least occasionally, listening tests for many years. A major part of today's professional audio equipment show electric data with no or very little degradation compared to a straight wire. Still audible differences can be detected. Refinement of audio technology seems always to be one step ahead of the development of appropriate methods for objective measurement. The sensitivity of the human ear is and will probably always be the best tool for the evaluation of audio quality.

When low bit-rate codecs for high quality audio were introduced towards the end of the 80's it was obvious that these codecs could not be assessed with conventional measurement methods. In fact no adequate mean for objective assessment was at all available.

In 1988 the two standardization bodies ISO and IEC initiated the Moving Pictures Expert Group (MPEG) with the object of establishing an international standard for encoding moving pictures for storage and retrieval on digital storage media. Later the same year the terms of reference were extended to include 2 channel audio coding and the MPEG/Audio group was formed. In November 1989 the Swedish Broadcasting Corporation was appointed to carry out the subjective assessment of the proposed algorithms.

This article is based on the experiences gained during the preparation and performance of this assessment, which took place in July 1990, and two verification tests which were performed in April/May and November 1991. The same methodology was used for the extensive assessments performed under the auspices of CCIR TG 10/2. Some results from these assessments are presented and the introduction of low bit-rate audio codecs in the broadcast chain is discussed.

## 2. A CHAIN OF CONSIDERATIONS

Performance of a subjective test is a costly and very time consuming procedure. It involves not only the time and efforts spent by the experimenter but more important the time spent by a large number of listeners (subjects). Thus a test must be performed in a way that ensures as reliable a result as possible. Furthermore, broadcasters who want to select a system for future broadcast purposes cannot afford the risk of investing in a system which proves not to give the expected quality and meet the demands of the audience.

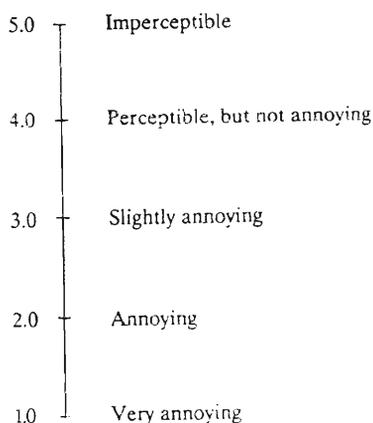
The planning and performance of a test involves a number of considerations and

actions which can be described as a chain, and the strength of the chain is no greater than its weakest link. These considerations will be different depending on the incentive for the test. There are for instance considerable differences in designing a test of speech codecs for telephony and a test of high quality audio codecs for broadcasting. Only the latter case will be addressed here.

## 2.1 Test Method

The Swedish Broadcasting Corporation has for many years used a method for subjective assessments which we call "Double Blind Test with Hidden Reference" or A-B-C. We regard this method to be suitable for the detection of small impairments and it has proved to give consistent results. The method has a further advantage as it allows for judgement of consistency of the subjects.

The MPEG/Audio group agreed to use this method which is now in wide spread use and is about to be recommended by the CCIR under the new name "Triple Stimulus, Hidden Reference, Double Blind" to be used when small impairments are to be detected. It was also agreed to use the CCIR 5-grade impairment scale, figure 1, but as a continuous scale with one decimal.



**Figure 1** CCIR impairment scale

In the A-B-C method the subjects are exposed to an item three times. A is always the reference signal, the uncoded signal, B and C are a hidden reference, ie. the same as A, and the object in any order. The subjects do not know this order which is changed between items and, in our implementation, also varies between subjects when there is more than one subject in a headphone session. The subject has to grade the impairment of both B and C as compared to A. This implies that either B or C always deserves grade 5.0, equal to the reference. As the subject has to grade both the hidden reference and the object this method allows for evaluation of the ability of each subject to hear and judge impairments.

As mentioned before the CCIR 5-grade impairment scale was used but with one modification. This scale is originally an integer scale with only five values allowed. We have for a number of years used the same scale as a floating point scale with one decimal. One of the reasons for this is that many subjects feel that the steps are very dramatic and may have difficulties choosing between two levels. It is easy to understand this feeling.

The Subject Control Terminal which was used for switching when this was allowed, that is in headphone sessions, and which also was used to set grades in all sessions is shown in figure 2.

## 2.2 Repro System and Listening Conditions

The general system set-up is shown in figure 3. Only a few points will be emphasised here.

All tests for MPEG/Audio were performed with real-time hardware. We regarded this as the only realistic way of controlling what was actually tested. Simulations had left little control over the production of the coded material to us or to the MPEG group. Furthermore, pre-recorded tapes, eg. DAT, have the disadvantage that tape errors are likely to occur and these may influence the result. The use of recorded material, from simulations or from hardware, had implied an extensive editing procedure. One tape had not been sufficient as this had meant that the codecs had appeared in the same order in all sessions.

Grading for a codec may be influenced by the quality of the previous codec in the session. If the order of codecs is the same during all sessions a fairly good codec may get lower grades if it appears after a very good codec than if it appears after a rather bad codec. Thus it is important that the codecs are tested in a random order and that no sequence can be recognised by the subjects. In our system the computer determines the order in which the codecs will be tested at the same moment as a session starts and the order is known neither to the subjects nor to the test leaders.

It must be stressed that it is of the greatest importance to make sure it is the audio quality of the codecs which is tested and no other equipment. This implies that all parts in the test set-up must be carefully checked and the signal from each codec must follow the same signal path. This is achieved in this set-up. Ideally, the reference signal should also follow the same path. This is hardly achievable in a hardware test and all efforts must be made to ensure that there is no difference in quality between the two paths.

All low bit-rate codecs introduce time delay. In some cases the delay for a specific codec is a function of the bitrate. In order to make it impossible for the subjects to use time difference to identify the reference and the object it was necessary to delay the reference signal by the same amount as introduced by the object under test.

The final parts of the reproduction system are the transducers and the acoustical properties of the listening room. Considering the high quality of many low bit-rate codecs it is important that the listening conditions are as good as possible so that the listening system itself does not contribute with any artifacts.

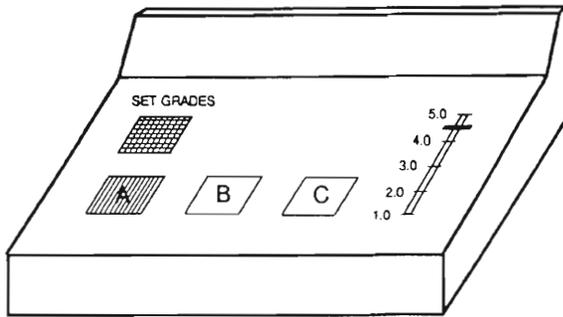


Figure 2 Subject control terminal

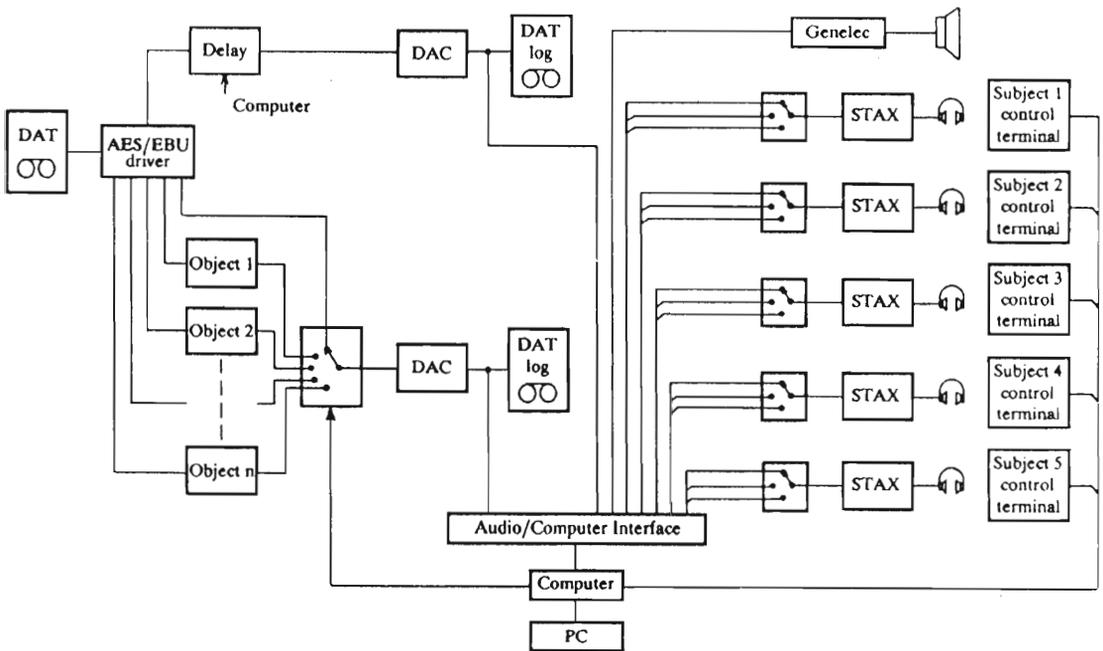


Figure 3 General system set-up

Another aspect of the listening room is whether the acoustical properties can contribute to un-masking the coded signal. This topic is out of the scope of this paper but ought to be subject to further studies.

### 2.3 Programme Material

Only the most critical programme material should be used. A simple sentence but a very difficult goal to achieve.

It does of course not make sense to spend time and thus money listening to material that will not reveal any artifacts from the codecs. Does it on the other hand make sense to create artificial sequences with the sole aim of breaking the codec? Although this can be done with a sufficient knowledge about the coding algorithms such a sequence will add little to the answer of whether a codec is suitable for broadcast purposes or not.

A pre-testing procedure is extremely important as there are no universally suitable test sequences. Different codecs will reveal artifacts on different kinds of material. Thus a carefully undertaken pre-selection procedure is necessary to ensure the sensitivity and reliability of a test. Pre-testing was done by a number of "golden ears" who played possible material through the codecs. Material for this pre-selection was based on suggestions from the competitors, our own knowledge about the codecs and partly, we have to admit, on intuition. Furthermore it was agreed that only sequences which could be considered as broadcast material should be used. At least two critical sequences should be sought for each participating codec. The test sequences used in the different tests are shown in table 1.

### 2.4 Subjects

CCIR Recommendation 562-3 states that a system intended for high quality broadcasting shall be assessed by expert listeners exclusively. There is a strong argument for this in the difference in "exposure time" between a test and an introduced system. During a test a subject may listen only for a very limited time to each item and codec. Once a system is standardized listeners will have the possibility to find artifacts during 20 - 30 years or more.

Codecs based on perceptual models of human hearing introduce artifacts which are not found in other types of audio equipment. One example is the pre-echo effect found in transform codecs. This effect can be described as an increase of noise level just before a transient. This is a type of artifact which is unknown to most listeners. Hence, even experienced listeners may have difficulties to detect this artifact during a short session. It is therefore desirable to give the subjects an opportunity to become familiar with the expected artifacts of the tested codecs.

A reasonably long training session ought to be incorporated in the most critical tests. Possibly the artifacts can be emphasised during the training session. This can be done for instance by occasionally using lower bit-rates than in the test or by letting the subjects listen to a Left minus Right signal. This signal allows for an easier detection of artifacts than the normal stereo signal does.

To allow for reliable statistical results and considering the nature of the tests (codecs with high quality and very small impairments) the number of observations per item and codec ought not to be below 30.

				MPEG90	MPEG91	CCIR92	CCIR93
Suzanne Vega	tr 1	0.22-0.42	A&M 395 136-2	X	X	X	
Tracy Chapman	tr 6	0.36-0.57	Elektra 960 774-2	X			
Glockenspiel	tr 35/1	0.00-0.16	EBU SQUAM 422-204-2	X	X		
Fireworks	tr 1	0.00-0.20	Pierre Verany 788031	X			
Ornette Coleman	tr 7	--	Dreams 008	X	X	X	
Bass Synth	--	--	SR recording	X			
Castanets	tr 27	0.00-0.20	EBU SQUAM 422-204-2	X		X	X
Male speech	tr 17/2	54.16-54.35	Japan Audio Society CD-3	X	X		
Bass Guitar	--	--	SR recording	X	X	X	
Trumpet (Haydn)	tr 10	5.10-5.30	Philips 420 203-2	X			
Carmen	tr 4	0.00-0.25	Telarc CD-80224		X		
Accordion/Triangle	--	--	Private (analogue) recording		X		
Tambourine	--	--	SR recording (DAT)		X		
Percussion	tr 1	3.34-3.57	Sonic Images SICD 2026		X		
George Duke	tr 1	0.47-1.03	Elektra 960 778-2		X		
Ravel: Fera	tr 5		Telarc CD-80171			X	
Dire Straits	tr 6		Warner Bros 7599-25264-2		X		
Trettondagsmarschen	tr 10		Mono Music AB MMCD 005		X		
German male speech	tr 54		EBU SQUAM 422-204-2		X	X	
Stravinsky	tr 30		Sony Classical SK 45965			X	
Åsa Jinder	tr 5		Eagle Records ECD 015			X	X
Triangles	tr 32/1		EBU SQUAM 422-204-2		X		
Harpichord	tr 40/1		EBU SQUAM 422-204-2		X	X	
Bass clarinet	tr 17		EBU SQUAM 422-204-2				X
Bagpipes			Private DAT-recording				X
Möller etc	tr 10		Caprice Records CD CAP 21383				X

Table 1

## 2.5 Statistical Analysis and Presentation

The most commonly used method for statistical analysis is the so called Students t-test. Results have been presented as mean value and standard deviation only. This presentation is probably sufficient for the expert reader but it is our opinion that this presentation does not give immediate information to non-experts with regard to confidence in the results. We have in our tests also calculated and presented the confidence interval at the 95% level. We believe that the uncertainty related to the statistical method should be presented and that a graphic presentation facilitates reading and understanding of the results, figure 4.

In this example grades for the object and the reference are calculated separately and per test sequence (item). The three lines at the top of each bar represents the mean value and the mean plus and minus the confidence interval. The usual interpretation is to say that an object shows a statistically significant impairment for a specific item when there is no overlap between **object + conf.int.** and **reference - conf.int.**

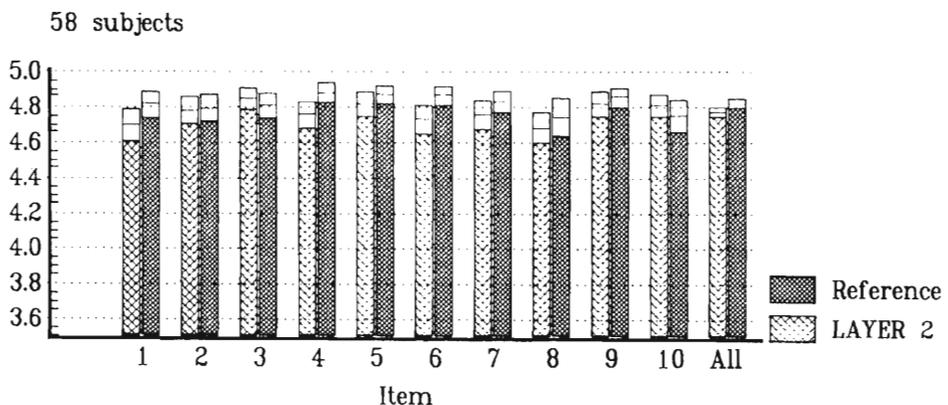


Figure 4 MPEG/Audio May 1991 Object: Layer II 128 kbit/s/ch  
Source: Headphones + loudspeakers

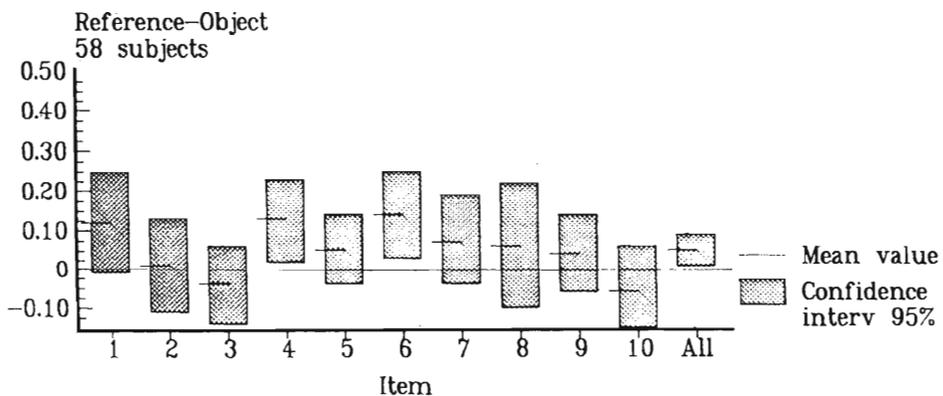


Figure 5 MPEG/Audio May 1991 Object: Layer II, 128 kbit/s/ch  
Source: Headphones + loudspeakers

Figure 5 shows the same result as figure 4 but now calculated as the difference between the reference and the object. This approach is more irreproachable from a statistical viewpoint and is preferred. As an object and the reference are graded at the same time for one item there is an interaction between the two grades. They are not independent and ought to be regarded as a pair. If R-O is used the value ought to have a positive value, the reference being better than the object. A zero value means that no difference is distinguished, i.e. the object is transparent on this item. The bias from the "zero line" corresponds to the level of non transparency. This presentation further facilitates reading.

### 3 CORRELATION BETWEEN TESTS

One question which is often discussed is the stability of a certain method for subjective assessments. Due to costs and time consumption it is hardly possible to allocate resources to studies of the characteristics of a specific method. However, some studies can be accomplished on a subset of data from the MPEG and CCIR TG 10/2 tests.

The MPEG test in April/May 1991 was a verification test of the expected better performance of the "layered approach" decided by the MPEG audio group. Thus it was important to have a close link to the previous test and the experimental design was deliberately chosen to give this link.

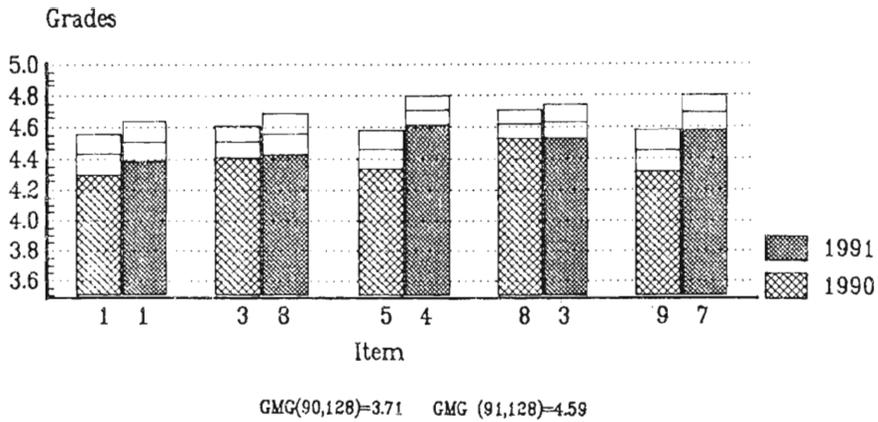
Approximately half of the subjects and half of the items were overlapping. Two codecs participated in both tests, MUSICAM and ASPEC. Except for these two the repertoire of codecs in the two tests was entirely different. This resulted in totally different Grand Mean Grades (GMG - defined as the mean of all grades given to all items and all codecs during a test). In the following examples we have calculated GMG per bit-rate. At 128 kbit/s/ch the GMG-value differed almost one full grade and at 96 kbit/s/ch the difference was even more than one grade. Figures 6a and 6b present the data for one codec, MUSICAM; at 128 and 96 kbit/s/ch respectively. Results from loudspeaker and headphone sessions are combined here.

Some experts have in the past expressed some concern that a change in GMG of this magnitude could have an influence on the absolute grades obtained in the test. The result indicates that this may not be a severe problem. However, it must be strongly underlined that this limited study can not be seen as a proof of the stability of the method.

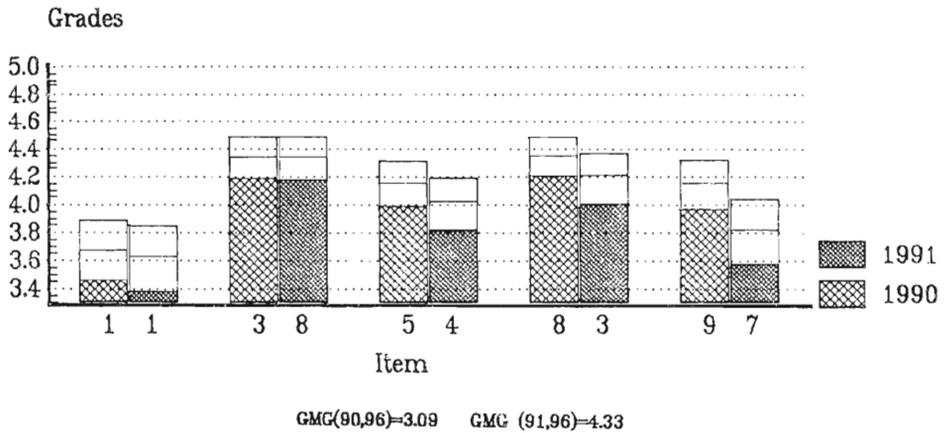
The CCIR TG 10/2 tests were not at all designed to have any links to the MPEG tests. In a test for emission applications performed in Australia one of the codecs, Layer II, from the MPEG test participated at the same bit-rate. This gives the fortunate opportunity for another comparison of results. In this case one codec and three items.

In the Australian test conditions were quite different compared to the MPEG test. There was no overlapping between subjects and listening conditions were of course different. GMG for the two tests is almost equal.

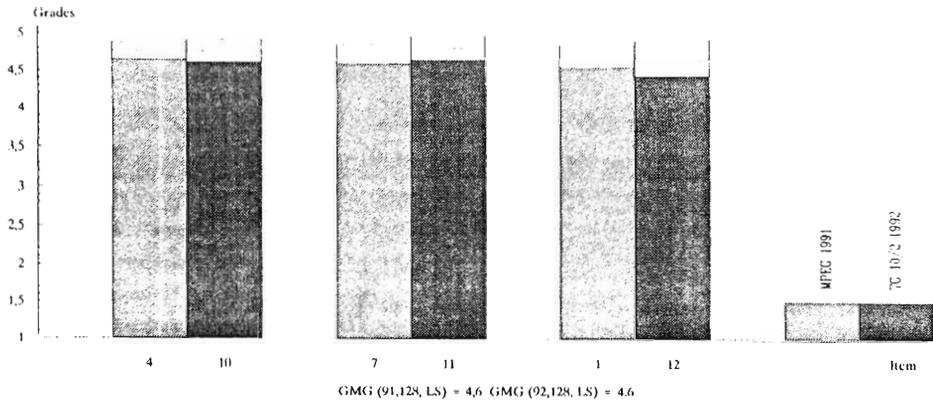
Figure 7a shows the result obtained with loudspeakers and figure 7b shows the same result from the headphone sessions. The increase in confidence interval in the Australian test is, at least partly, caused by the lower number of observations.



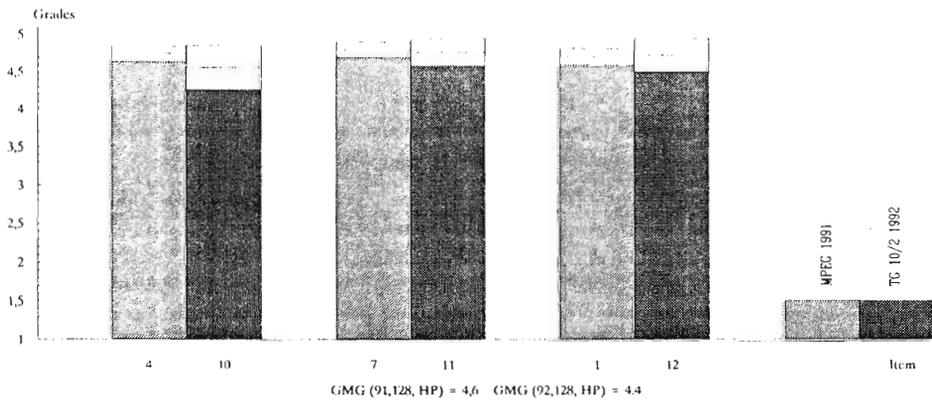
**Figure 6a**    Mutual items 1990/1991  
 Object: MUSICAM 128 kbit/s/ch  
 Source: Headphones + loudspeakers



**Figure 6b**    Mutual items 1990/1991  
 Object: MUSICAM 96 kbit/s/ch  
 Source: Headphones + loudspeakers



**Figure 7a** Mutual items MPEG 1991 & TG 10/2 1992  
 Object: Layer II, 128 kbit/s/ch  
 Source: Loudspeakers



**Figure 7b** Mutual items MPEG 1991 & TG 10/2 1992  
 Object: Layer II, 128 kbit/s/ch  
 Source: Headphones

In the first comparison, where GMG could be considered to be the main variable, the absolute grades seem to be very stable. In the second comparison GMG is almost constant but almost all other factors have changed. Also in this case the absolute grades obtained were extremely stable.

## 4 RESULTS

The methodology and the considerations presented here have been used with small modifications for all tests performed during the last four years for MPEG/Audio and CCIR TG 10/2. The result from these tests have formed a base for the decision on a number of standards or proposed standards.

### 4.1 MPEG/Audio

ISO/IEC has adopted a generic standard for 2-channel audio, ISO 11172-3. This standard consists of three layers with increasing complexity and performance:

	<u>Target bit rate</u>	
Layer I	192 kbit/s/ch	domestic use
Layer II	96-128 kbit/s/ch	professional use
Layer III	64 kbit/s/ch	professional use

EUREKA 147, DAB has adopted ISO Layer II for the European system for Digital Audio Broadcasting which is about to become a European Telecommunications Standard, ETS.

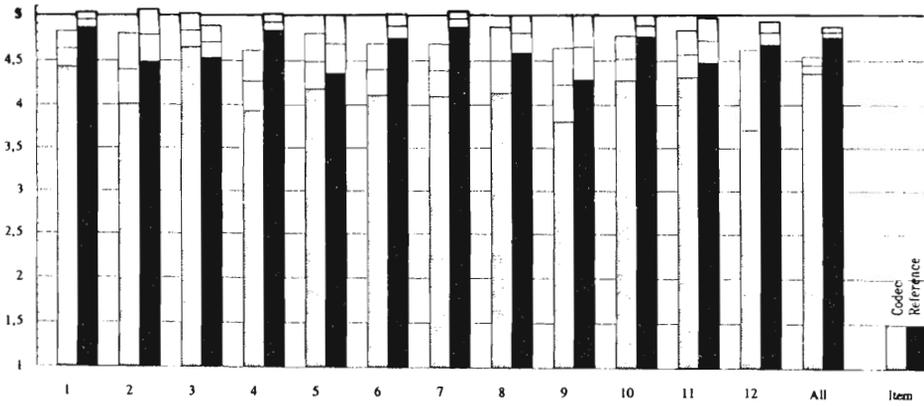
Results for Layer II at 128 kbit/s/ch have been shown already. This result shows that the subjective audio quality at this bit-rate is virtually indistinguishable from an original CD. When results for reference and object are calculated separately there are no significant impairments, figure 4. When we use difference calculation, figure 5, we find small impairments on two items (4 and 6) but they are in the magnitude of 0.1 grades. It can be concluded that the codec at this bit-rate is well suited for broadcast applications such as DAB.

Figure 8 shows results for the same codec at 96 kbit/s/ch. All items show a significant impairment at this bit-rate. It must then be concluded that the codec can not be accepted for broadcast applications at this bit-rate.

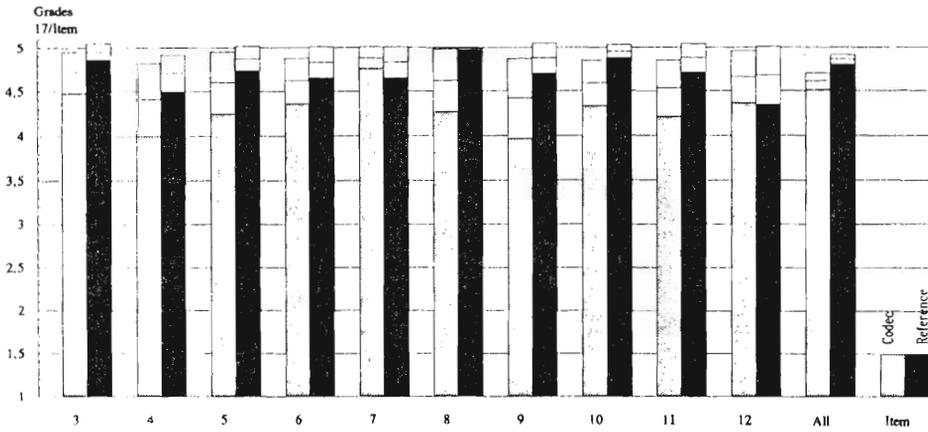
All tests for MPEG were made with coding and decoding once only. Once low bit-rate codecs have been introduced in the broadcast environment it can, however, be foreseen that they will be used for different applications. This implies that coding and decoding may take place a number of consecutive times, cascading.

### 4.2 CCIR TG 10/2

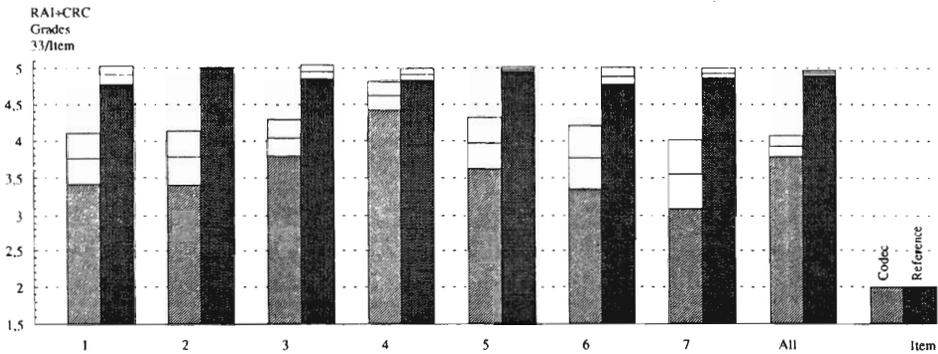
The purpose of the CCIR TG 10/2 assessments was to test different parts of a broadcast chain. In 1992 the tests were made for these parts separately and in the 1993 test a complete broadcast chain was defined and tested. The four different parts were:



**Figure 8** CCIR TG 10/2, April 1992  
Layer II, Distribution (3 in cascade), 120 kbit/s/ch



**Figure 9** CCIR TG 10/2, May 1992  
Layer II, Contribution (5 in cascade), 180 kbit/s/ch



**Figure 10** CCIR TG 10/2, July 1993  
Layer II, 5 Contribution (180 kbit/s/ch) + 3 Distribution (120 kbit/s/ch) + 1 Emission (128 kbit/s/ch)

<u>Application</u>	<u>No of codecs in cascade</u>	<u>Target bit-rate</u>
Contribution	5	180 kbit/s/ch
Distribution	3	120 kbit/s/ch
Emission	1	128 kbit/s/ch
Commentary	1	60 kbit/s/ch

In the contribution test as well as in the distribution test the two ISO codecs, Layer II and Layer III, showed a quality superior to that of the other participating codecs. Layer II had a rather "even" behaviour on all items while Layer III performed extremely well on most items but had a degradation of approximately 1 full grade on some items.

Figure 9 shows the result for Layer II in distribution mode and figure 10 in contribution mode. It can be clearly seen from the figures that a higher bit-rate allows for more stages of cascading, the result for 5 times 180 kbit/s/ch being better than 3 times 120 kbit/s/ch.

In the last test performed under the auspices of CCIR TG 10/2 the full broadcast chain as defined by the group was tested. The result with the defined target bit-rates was rather discouraging. As can be seen in figure 11 most of the items have been awarded grades around or slightly below 4. This is certainly not a quality that can be accepted by broadcasters. The group therefore added another test where the bit-rate for the distribution path was raised to the same as for contribution, 180 kbit/s/ch. Again it can be seen, figure 12, that the higher the bit-rate the better the performance after cascading.

The consequence was that the group issued a draft recommendation with the following codecs and bit-rates:

Contribution	ISO Layer II	180 kbit/s/ch
Distribution	ISO Layer II	180 kbit/s/ch
Emission	ISO Layer II	128 kbit/s/ch
Commentary	ISO Layer III	60 kbit/s/ch

## 5. BROADCAST APPLICATIONS

The use of low bit-rate audio codecs will increase in the coming few years. For transmissions they offer higher efficiency and thus lower cost, but the same codecs can also be foreseen in a number of other broadcast applications. This raises a number of questions. How is the audio quality affected? Shall we use low bit-rate coding for contribution and production? How about archiving? What do we have to take into consideration before introducing low bit-rate codecs?

The question about audio quality has, to some extent, been answered in this article. One point that has not been addressed here is what happens to audio quality when different coding algorithms are cascaded. Some very limited studies indicate that degradation is faster when different codecs are cascaded than if one and the same algorithm is used. I will not attempt to give precise answers to the other questions but the following may give some hints.

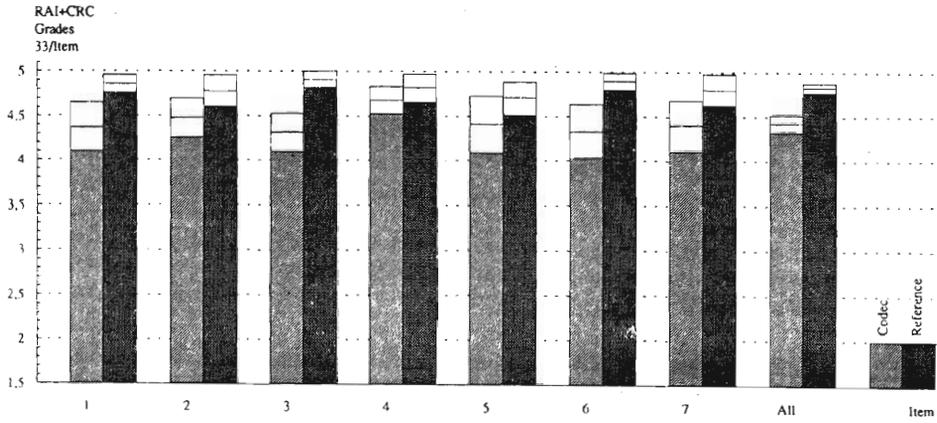


Figure 11 CCIR TG 10/2, July 1993  
Layer II, 8 Contribution (180 kbit/s/ch) + 1 Emission (128 kbit/s/ch)

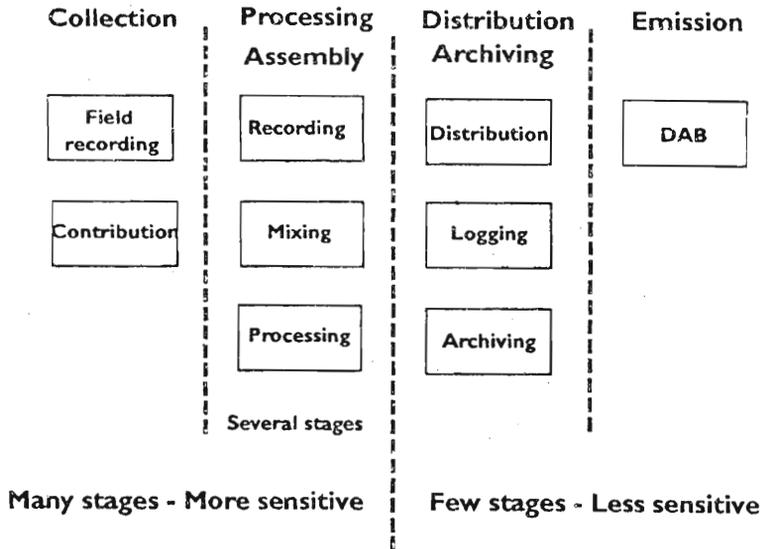


Figure 12

Figure 12 shows a simplified diagram of a broadcast chain. It starts with the collection of material. This may be field recordings on portable recorders or in OB-vans or it may be some kind of contribution circuit. After that follows assembly and possibly also processing of the material. This part may include several stages of recording and mixing and results in a finished programme. The third part consists of distribution, logging and archiving and the last part is emission.

It is obvious that a distinct border line can be seen after the assembly part, being the point where the programme is finished. It therefore seems natural to first introduce low bit-rate codecs to the right of this line. Furthermore, we know that ISO Layer II will be used when DAB is introduced in a few years time. This has led me to the following conclusions.

- \* Look at the entire environment, ie. other codecs in the chain, before deciding on the introduction of a low bit-rate audio codec for a new application.
- \* Do not mix different algorithms.
- \* Choose a higher bit-rate than is needed for the single application.
- \* Start introduction from the right, the emission side, in the broadcast chain.

Finally, it ought to be mentioned that the quality evaluation of low bit-rate audio codecs is a difficult and time consuming task. At present it can only be done by subjective assessments as described earlier.

## **SOUND ARCHIVING ON QUARTER INCH CARTRIDGE WITH BIT RATE REDUCTION**

*Stig-Lennart Molneryd, ALB, Stockholm*

**Paper presented to one of the Technical Committee open sessions at the IASA/IAML/IAMIC Conference in Helsinki 1993**

The Swedish National Archive of Recorded Sound and Moving Images (ALB) was founded in 1979 as a government institution. At the same time the Swedish Parliament passed the Statutory Deposit Act which states - among other things - that the radio programmes broadcast by any of the subsidiary companies of the Swedish Broadcasting Corporation must be submitted to the ALB six months after broadcasting. Around 125,000 hours of recorded radio programmes are thus sent to the ALB each year.

Since the beginning the technical standard has been analogue recordings in mono with a speed of 4.75 cm/sec on 10 inch open reels. We still receive these analogue mono recordings from the local radio stations. The format of the recording - with bit rate reduction - is for the moment used only for the reference tapes of the nationwide Swedish radio broadcasts and today it is about 40,000 hours per year.

The cooperation between the ALB and the broadcasting companies, Swedish Television and Swedish Broadcasting Corporation has extended continually over the years in particular concerning the longterm archiving of television and radiotapes.

The relatively low technical standard that has prevailed on the archive tapes has made it impossible for the broadcasting companies to use the tapes for rebroadcasting purposes. Raising the technical standard is therefore an important concern for our mutual benefit.

Over the past few years we have been following technical developments and been looking for a new recording format for the broadcasting of radio programmes. The analogue recording has been used for many years and must now be changed and replaced. We have been investigating different systems of recordings that have emerged on the market and tried to evaluate them from the archiving aspect.

The technique of bit rate reduction of sound and video signals is still in its infancy and will in the future be integrated in datastreams, where the signals do not separate between sound, video or text information.

Our main aim has been to find a digital archive system with certain specific requirements:

It must be

- a system with good sound quality in stereo (good enough for rebroadcasting by the Broadcasting Corporation)
- a standard and dependable system in all its parts
- a system which is easy to use and where information is easy to retrieve
- a system not more expensive per hour than the analogue system we used to use
- a system that does not require more archive space per hour than the analogue system we used before

Listening tests have been performed and evaluated regarding a future digital broadcasting network, DAB (Digital Audio Broadcasting). These tests have been performed at intervals at the Swedish Broadcasting Corporation. Various panels - so called golden ears - have been listening to different levels and systems of bit rate reduction and compared it to original recordings on DAT.

DAB has obtained a specified standard of 128 kbit/sec and channel. Regular broadcast tests will probably start in Sweden in 1995.

During the last few years, different consumer systems have been introduced which also use the bit rate reduction technique. They are systems such as DCC (Digital Compact Cassette) and MD (Minidisc).

The ALB and the Swedish Broadcasting Corporation have jointly decided to evaluate a PC-system, developed by Tandberg Data in Norway. The system is based on recording sound on data-cassettes - so called QIC cassettes where QIC stands for Quarter Inch Cartridge. This cassette format is a well established industrial standard for professional computer backup systems and is spread world-wide. Wearing tests have been performed: among others a typical test where a tape cartridge is run 200,000 passes without any trouble. The system has the high security margin that is essential for all computer work with a self-controlling error correction. Every command and message going between the units is recorded in a logfile. By analysing the logfile, it is simple to find the reason for any unexpected action of the system. It also monitors the raw bit error rate of recording, giving useful information for preventive maintenance of the system.

With a separate tape qualifier programme it is possible to monitor tape quality as; signal level, bit error rate, physical damage etc. The programme may be used both for incoming inspection of new cartridges (write and read) and for checking the quality of old recordings (read only). Each cartridge is tested before use by writing header information on the beginning of the tape. The header information includes date and

time, programme name, bitrate code format, software version and tape drive serial number. The mechanism of the cassettes and of the recording equipment (the tape streamer) are simple and uncomplicated. Also tape reliability is well proven for QIC tapes. The recordings on magnetic tape are made with one stationary head and with parallel tracks. With the bit rate reduction system we are free to choose any amount of compression from 64 kbit/sec to linear uncompressed recordings (CD quality). We have chosen a standard code ISO-MPEG Layer 2 with a bit reduction of 112 kbit/sec. Our QIC cassettes have a storage capacity of 2.5 Gbyte, which gives a total recording time of 24 hours. The possibilities of retrieving a programme are either to look for the title if we have recorded the RDS-information (Radio Data System) or the time when the programme was broadcast. This of course makes it much easier to find the programme asked for. After recording a programme a label is automatically written, containing programme/radio channel information as well as date and time of the programme. The label is then attached to the cassette.

The recordings can be copied digitally up to 10 times faster than real time or the copying can be made analogue in real time. The analogue copies made from the original bit rate reduction recordings are not supposed to be copied in any large number of generations and will not reach the point of deteriorated sound quality.

The system can operate on a network and the information could be retrieved by internal as well as external users.

We started this system of recording on the 18th January 1993 and the Swedish Broadcasting Corporation are responsible for its management. The recordings are made automatically from the logging units, which can record 7 different radio channels at the same time. Some of the programmes are broadcast in mono, which makes it possible to record two separate channels in parallel on the same cassette.

The technical recording quality (112 kbit/sec/channel) holds a standard high enough for rebroadcasting purposes. With this recording format our future archiving can also be automated to a much higher degree. We plan to be able to develop a robot-system, which will handle the archival cassettes automatically and can diagnose the cassettes as far as ageing and other deteriorating effects are concerned.

This archival system is an open system which is a combination of different technical solutions and where we think that each component is strong enough to hold the system together for a long period of time. The equipment is not tied to a certain manufacturer - it is a dependable system and conforms to accepted and well established standards.

# DISCOGRAPHY

## EARLY RUSSIAN RECORDS LABELS

*Alexander V Tikhonov, Russian State Archives of Phonodocuments*

Paper presented to the Discography open session at the IASA/IAML/IAMIC Conference in Helsinki 1993

The topic I would like to talk on is *Early Russian Records Labels*. This is an interesting and overwhelming subject which to my regret is not well investigated. I shall try in brief to formulate the basic approaches to its research.

The first essential is to compile the discography of all Russian and Soviet recorded documents. Secondly to study the history of sound recordings in Russia in correlation with the world-wide process of the music business. Thirdly to concentrate in one centre, that is the Russian State Archives of Phonodocuments which I represent, all the existing recordings which are now missing from the collection. And finally there are the problems of restoration, reprinting and legal questions in these activities.

The Russian discography takes root in 1898 and stems from the first ever catalogue published by the Moscow trade company of I F Muller filing the records made in Russia.

However 1902 can be regarded as the actual beginning of the Russian gramophone industry. It is in 1902 that in St. Petersburg the first Russian company producing records and record players V I Rebikov and Co. was set up. It is noteworthy that this company came into being almost simultaneously with record manufacturing companies 'Gramophone' and 'Sonophone' founded on foreign investments. It is also in 1902 that the first issue of the specialised magazine devoted to problems of the new industry 'Gramophone and Phonograph' was published. Also in 1902 the voice of the great Russian singer F I Chaliapin was recorded in Russia. The same year is also marked with the first huge gramophone scandal centred around the well known singer A Vyaltseva, and also the first pirate publications of records appear on the market, and finally also in 1902 the first public gramophone concert took place and the first hall for the audition of sound recording was opened, the first record distributors, retail and wholesale records stores appear and the gramophone starts its triumphant march over Russia.

The major supplier of the Russian record market was the shareholding society 'Gramophone'. Its huge catalogue lists almost all the leading artists of that time: Chaliapin, Sobinov, Figner, Davidov, and others. It did not take 'Gramophone' long to devour its first competitor - the shareholders company 'Sonophone', turning it into its affiliate which was orientated to the folk music repertoire.

The interest in the Russian market brought the American company 'Columbia Phonograph Company' to St. Petersburg and in 1902 it set up its Russian branch. 'Columbia' on the Russian market went through a series of plights which brought

about the end of its Russian branch in 1911. Despite this regrettable end, Columbia managed to make many interesting recordings in Russia.

In 1903 a store was opened in Moscow of the French 'General Company of Phonographs, Cinematograph and Precise Equipment by the Brothers Pate'. Recordings of Russian artists were such a success that already in 1907 the company opened their own records production factory in Moscow called 'Brothers Pate'. Some time after German businessmen who later founded such record companies as 'Stella Records', 'Sirena Records', 'Extraphone', 'Metropol Records' etc took a lively interest in Russia.

Alongside the foreign companies Russian record and gramophone producing companies and factories were functioning. The pioneers in this field of the music industry were V Rebikov in St. Petersburg and R Jacob in Moscow. 'Rebikov and Co.', financed and sponsored by the millionaires Korovin and Zakharov, had the reputation of a serious competitor for foreign companies. Its studios recorded such outstanding artists as Chaliapin and Vyaltseva. However due to a not very well thought out policy of prices and ignorance of technological secrets their records were never destined to be issued. Two years later the enterprise went broke.

The same fate awaited the Moscow factory set up by Richard Jacob 'Jacob Records'. In 1904 its catalogue exceeded 6000 entries, its repertoire being largely opera and operetta arias as well as Russian folk songs. Despite that, the company could not withstand the competition and stopped record production and switched over to the production of gramophones and eventually in 1912 went bankrupt. It is noteworthy that this company was the first not only in Russia but also in Europe that started producing two-sided records.

In 1908 in Russian record stores one could come across records with the label 'Sirena-Records'. This new Russian recording company was settled in Warsaw (the Polish Kingdom since 1815 was part of the Russian Empire). Three years later, producing over 2,500,000 records a year, the company started expanding its production. By late 1911 the repertoire of 'Sirena-Records' exceeded 1.5 times the list of recordings produced by 'Sonophone', which testified to the high dynamic of its development.

At the end of 1910 at a small railway station Aprelevka not far from Moscow a small record production factory 'Metropol-Records' started working. At present this is a major enterprise in Russia. Its founders, the father and son Moll, managed to create an up-to-date highly profitable production of high-quality mass production for records and their pressing. In July 1911 'Metropol-Records' set up a joint venture with a German company 'Dakapo-Records', this joint effort bringing wonderful results. The factory sold about 50,000 records a month averaging 50 kopecks apiece. Even at this price the financial report of the factory showed an increase in profits. In 1912 'Metropol-Records' opened its branch in Moscow incorporating a recording studio and galvanic workshop and started the production of new large-size records. In 1914 they started to construct a new workshop on the site of the factory, but the war between Germany and Russia prevented the founders of the enterprise continuing. After the start of the war the factory was expropriated and became the property of the 'Russian Shareholding Society of Gramophones'.

In August 1911 the Statutes of the Russian Shareholders Society of Gramophones received the approval of the Russian Tsar. The new company sprang up, but not on an empty place, it became the successor of the company notoriously known for its pirate productions 'Orpheon'. The Chairman of the Board of the Society was the soloist of His Majesty Tsar Nicolas II, Mr N N Figner. The factory was located in St. Petersburg. In 1914 the record producing factory in Aprelevka (formerly 'Metropol-Records') became the property of the Society. After the Revolution the Russian Shareholding Society of Gramophones ceased existence.

Late 1911 in Kiev a factory of the Society 'Extraphone' sprang into being. From a modest enterprise functioning and satisfying the demands of the Kiev region only, it was soon transformed into one of the major suppliers of the Russian gramophone market. This was the only enterprise founded on Russian investments which did not become part of the Syndicate of Joint Fabricants Brothers Isserlin. In the wartime the Society was transformed into a shareholding company and became the leader of the Russian gramophone business. In 1917 the Shareholding company 'Extraphone' ceased existence.

Alongside the above mentioned companies in Russia there were a number of minor enterprises founded both on the Russian and mixed capital. These were the companies 'Gnome-Records', 'Society Phonogram', 'Zvukopis', all of them located in St. Petersburg.

At the end of 1914 there was founded a Syndicate of Joint Factories incorporating such well-known Russian businesses as 'Sirena', 'Russian Shareholding Society of Gramophones', 'Metropol-Records', 'Zvukopis'. The Syndicate was intended as a structure capable of organising the market, establishing stable prices, removing the controversy between Russian manufacturers and becoming a serious competitor for such companies as 'Gramophone' and 'Pate'. Yet the Syndicate did not justify all the hopes and very soon ceased its existence. The Syndicate produced records labelled 'The Russian Gramophone Ltd' and 'Melodia'.

A characteristic feature of the Russian gramophone industry of the beginning of the century was the legally existing enterprises producing forgeries. The first one appeared already in 1902 in Moscow and was called 'Neographone', however the pirate recording business achieved its peak in St. Petersburg housing such companies as 'Melodyphone', 'Orphenon' and 'Tomophone'. A long absence of the necessary legislation acts regulating copyright, made it possible for these factories to collect huge profits and gave them immunity from justice. The copyright law adopted in August 1912 was the first attempt to resolve the complicated situation of the copyright of gramophone companies, however this law could not settle all problems.

My description would have been incomplete without mentioning numerous foreign suppliers recording Russian artists. These companies were 'Parlophone', 'Beka', 'Odeon', 'Lirophone' and others. The total circulation of produced and imported records amounted to dozens of millions, the repertoire ranging from sacred chants and simple folk songs to opera and symphonic music.

Attempts to create a depository of gramophone recordings were not crowned with success. A serious competition between manufacturers led them away from the problem of storing the recorded musical heritage.

If you wonder what is left of those recordings today and where you can get to know them, my answer is the Russian State Archives of Phonodocuments.

The wax cylinders, records, gramo-originals and matrices stored in the Archive are of great value and represent a cultural layer consisting of various genres, trends and directions in the musical and performing arts. Sound recordings as documents of the history reflect not only on the level of the musical culture, the level of the performing arts of that time, the traditions of the people but also the technological level, market tendencies and others.

The history of this Treasury of Sounds dates back to 1932 when the Central Archive of sound recordings was set up, it soon merged with the Archive of photo and cinema documents and for a long time existed as a department of the State Archive of cinema and photodocuments. In 1967 the Central State Archive of sound recordings of the USSR restored its independence and in 1972 it was transformed into the Russian State Archive. At the moment this is a major storehouse for sound recordings whose collections number about 200,000 units.

The overall pre-revolutionary stock of the Archive is divided into collections, the largest ones are the 'Gramophone' housing 4945 items and the 'Zonophone' with 2259 items.

Unfortunately these collections are far from being complete, for instance the Archive does not possess even a single disc of the Society V I Rebikov, or records of the company 'Jacob-Records' and other materials, testifying to the first steps of the Russian gramophone industry and performers whose names sank into oblivion. Trying hard to redress these omissions, the experts of the Archive are conducting the search for the missing materials in private collections and I believe that this is the programme that might interest sound archives, libraries and private collectors in the West, and in which they might be able to assist.

Historically in the stock of the State Archives there are a lot of gramophone records produced by various recording companies, representing almost all the countries of the world, and that alone makes the Russian State Archives a large international institution whose potential is not fully taken advantage of.

At present the Archive conducts a large-scale research programme, our experts work on historical notes thoroughly analysing the development of the gramophone industry in Russia. The history of establishment, development and functioning of factories producing records and gramophones is being investigated, and our specialists work on minor details pertaining to some concrete companies like production capacities, number of employees in factories, their branches and affiliates in other towns, their trade representations, trademarks etc. The catalogues and lists of recordings are being reworked.

The Archives collect catalogues, discographies and other reference materials. We are ready to start the international exchange programme, to take part in international research programmes and we are very interested in the experience of our colleagues in the West. I believe that such a dialogue could be of mutual benefit.

Of course our archives are not alone in Russia. Substantial stocks of sound recordings are stored in the Glinka Museum of Musical Culture - 51,821 entries, Moscow State

Conservatory - 18,200 items, and others. Interesting collections are in the possession of private collectors who have recently established the Association of Private Collectors of Sound Recordings.

Having in mind the grievous experience in looking for sound documents of the past, the Archive is now cooperating with new independent recording companies in Russia, getting from them their production for storage. At present we have agreements with such recording enterprises as 'SNC Records', 'Lad', 'Syntex-Records', 'Gala-Records' and others, data on their production is immediately fed into our computer storage system.

It is noteworthy that some new recently established companies take a lively interest in the recordings of the past. For instance a new Moscow recording company 'Anima Vox' invested considerable funds to get the equipment for restoring old recordings to the more recently available CDs.

I would like to hope that Russian sound recording collections will become part of the international exchange and will do much good to all those who genuinely love and value the musical culture.

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### ISRC CODE

The ISRC code (International Standard Recording Code) is an alphanumerical code which is used to identify individual tracks on CD records. Although it is potentially useful for cataloguing purposes, its use has so far been limited because of lack of equipment which can read the code in the subchannel area of the disc.

In cooperation with researcher Philip Donner, the record library of Finnish Broadcasting Company has developed a special interface which allows the library to read the codes with a personal computer and CD-ROM player, and the library is currently engaged in research to determine how widespread the use of the code actually is in the recording industry.

Pekka Gronow would like to hear from anybody who is interested in the use of the ISRC code in cataloguing, or doing other related research. He can be contacted at the Record Library, Yleisradio JA 15, Box 10, 00241 Helsinki, Finland (FAX +3580 - 1480 2089).

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## AN ORAL HISTORY OF GLYNDEBOURNE FESTIVAL OPERA

*Timothy Day, National Sound Archive, British Library*

**Paper presented to the Discography open session at the IASA/IAML/IAMIC Conference in Helsinki 1993.**

When the English conductor Jane Glover gave a lecture at the British Library in 1984 celebrating the first fifty years of Glyndebourne she was able to illustrate her talk with the well-known commercial recordings. She could also draw on tapes of broadcasts, recordings of performances and talks, features and documentary programmes, and she could also use tapes made in the 1950s and 1960s and donated by the British Council.

There is in other words a considerable archive of Glyndebourne recordings in the British Library built up from the usual sources of the western art music collections, published discs, BBC material - which includes both radio and TV transmissions - and donations of non-commercial recordings.

In 1990 the British Library and Glyndebourne decided that an oral history should be recorded to complement the existing holdings of recordings at the National Sound Archive and the written and printed documents preserved in Glyndebourne's own archives. The NSA (National Sound Archive, British Library) decided to undertake this work first of all because it had never attempted anything quite like it before. The formation of an oral history section at the NSA with the appointment of a full-time curator in 1988 focussed attention on this activity. It means that all the NSA curators now have a colleague who can provide expert information and give advice on the planning and execution of oral history programmes, and on recording methods and interview techniques. Glyndebourne Festival Opera seemed an appropriate subject as there was a lot of interesting material already in the Archive, and Glyndebourne is an organisation of national and international importance not just because of the standard of its own productions but also because of the way it has acted as a training ground for several generations of men and women who have subsequently made their mark in opera. It has been one of the crucial factors in the creating of interest and in the raising of standards of opera in England during the past half century. For in the 1920s there was some way to go in the English appreciation of opera. In 1918 one of the most revered English musicians of his time put down his feelings about opera in a private notebook. 'Opera' he wrote 'is the shallowest fraud ever achieved in the name of art. Its invariable associates are dirt and tinsel. Its history is falseness, intrigue, shallowness, levity and pretension... No composer who is worthy of any reverence at all ever wrote an Opera'. If things are different now Glyndebourne can take much of the credit for it.

At the beginning the two organisations drafted a statement which defined the objectives of the project.

The immediate aim is to create a detailed oral history of every aspect of Glyndebourne. It is planned to interview singers, designers, producers, musicians, those who have worked, and still work, front-of-house and back stage, and those in other areas who contribute to the enjoyment of

an evening at Glyndebourne, caterers for example, and gardeners. in the longer term it is hoped to develop an "outsiders" view of Glyndebourne by interviewing a critic, a photographer, and one or two long standing members of the Glyndebourne Festival Society.

The object of the work is to create a fuller and truer record of a place and an organisation and how it works than would otherwise be possible. Glyndebourne is in the fortunate position of being able to interview people connected with the Festival since its formation in 1934. This project is therefore a rare opportunity to create a complete oral history of a unique enterprise'.

The most difficult point on which to reach agreement was the length of interviews. The oral historians urged that most interviews should be perhaps three or four hours long and suggested that some should be longer. For a number of reasons this did not seem appropriate for this series of interviews. Some of our interviewees would be famous musicians of whom broadcast interviews would have been preserved and about whom numerous articles and, for some of them, books had been written; most would be very busy and not grant us hours of their time. It was not considered feasible to conduct life-story interviews - this is not what the Glyndebourne Archive is anyway - and it was thought likely that the funding that could be raised would not enable many interviews to be carried out of the length recommended by the oral historians. In some ways this has been a pity. At any rate most of the interviews are between sixty and ninety minutes long. Most were recorded in a studio at the Archive, although one or two were taped at Glyndebourne, and a few at the homes of the interviewees. It was assumed that each one would represent a half day's work for the interviewer, who has been required to provide a five or six page typed summary.

Most of the interviews have been carried out by very experienced journalists and broadcasters who have a specialist knowledge of singing, and of opera, and of Glyndebourne. (The interviews with the gardeners were conducted by a garden historian). Maybe less informed questioners would have elicited some interesting insights. It seemed more likely though that the professional musicians would have been irritated and impatient with musical ignorance.

The project began with the British Library funding the recording of half a dozen tapes, the interviewees chosen to illustrate the proposed scope of the oral history: a coach and chorus master, a long time head of the music staff, two singers, an administrator, and the composer of an opera commissioned by Glyndebourne, who has taken part in their educational work. When these were completed a twenty-minute tape was assembled consisting of extracts from historic recordings already in the Archive - of both performance and of speech - together with a number of examples from our oral history interviews. Armed with this twenty-minute tape Glyndebourne then wooed a Sussex businessman who yielded pretty quickly and promised funding which would enable the project to record sixty or seventy interviews in this first stage, for it was always envisaged that work on the oral history would continue indefinitely.

So nearly fifty interviews have been completed. These include tapes of Roy Henderson, the Scottish baritone born in 1899, who took part in the first season and later achieved renown as a teacher of, among others, Kathleen Ferrier; Martin Isepp who retired in July as Head of Music Staff after thirty-six years at Glyndebourne; Peter Ebert, the son of Carl; the producers Anthony Besch and John Cox; the designer John Bury; the orchestral players Jack Brymer and Evelyn Rothwell (Lady Barbirolli);

the conductors Raymond Leppard and Andrew Davis; the singers Richard Van Allan, Felicity Lott, Elisabeth Söderström, Willard White, Sir Geraint Evans; also the three gardeners, a librarian, a lighting man and the front-of-house staff. In July last year conversations were recorded with those who had lived and worked at Glyndebourne for many years as they walked around the house and theatre just before the old auditorium was razed to the ground.

It is essentially an oral history of Glyndebourne as a theatrical organisation. It has not specifically investigated, for example, Glyndebourne as a social phenomenon, but it should be borne in mind that these recordings do not stand alone, they are intended to complement all the other written sources which are obviously very rich.

The oral history has yielded important details about the evolution of musical styles, about rehearsal techniques, and about personal and professional relationships, and has provided a wealth of evocation and illustration. In particular it has enabled more rounded views, more life-like impressions of the leading *dramatis personae* than it is possible to glean from the written accounts alone.

Carl Ebert was a crucial figure in the establishment of the Glyndebourne way of doing things. Ebert was born in 1887 and for two years before the Nazis came to power was general administrator of the Berlin Städtische Oper. BBC and British Council recordings allow the listener to hear Ebert reminiscing on the beginnings of Glyndebourne - 'I thought it was a crazy idea' - and to eavesdrop on a 1959 rehearsal in which he speaks four languages in as many minutes. And now the oral history records the impressions he made on June Dandridge, one of Glyndebourne's stage managers - *There was a buzz about the place as soon as his car drove through the archway. Now we've started. now we're off*; on his son Peter, himself a producer at Glyndebourne who observed that it was his acting ability that enabled him to establish such a rapport with the singers; on a singer at that first season, Roy Henderson, who recalls working on stage well after midnight on occasions and Ebert's ability to listen to ideas put forward by the singers themselves; and on the singer and director Douglas Craig -

*Everybody would be there and ready, and Ebert would invariably be late... Hello darlings! Good morning! So lovely to see you... What are we doing this morning?, as if it was an entirely new thing. And after twenty minutes he would have done nothing... and the whinging would start: 'First of all he's late and then he lets the thing go on for twenty minutes...'. 'Fine. My dear what you do there as Susanna is lovely. And I love your face, that's gorgeous. Obviously you and Figaro are going to make a wonderful pair when you are married. We're all going to be glad to come and have tea with you... But ...' What was marvellous about this manner of working was that after another twenty minutes had elapsed the performers would be doing something entirely different from what they had done in the beginning, feeling that they had brought it out of themselves, that it had not been imposed. And always with the music in mind.*

By the time a line is drawn under the first stage of the oral history of Glyndebourne, to coincide with the opening of the new opera house in May 1994, a body of source material will have been created of some interest and importance for historians, and a resource of evocative and illustrative material to be drawn on by Glyndebourne and the British Library for use in public lectures, seminars and exhibitions and by broadcasters.

## THE UNITED KINGDOM NATIONAL DISCOGRAPHY

*Malcolm Tibber, Mechanical Rights Protection Society, London*

### A demonstration to IASA during the IASA/IAML/IAMIC conference in Helsinki 1993

The above demonstration was given as part of the 1993 IASA/IAML/IAMIC conference in Helsinki, during a IASA seminar devoted to opera, chaired by Dr. Martin Elste. It was intended to show the breadth and depth of the UK National Discography and the ease and scope with which database information could be retrieved.

Godfrey Rust, Database Controller of MCPS (Mechanical-Copyright Protection Society, which owns the Discography), introduced the proceedings by explaining the background to the formation of the Discography, the design of the file structures and the means by which the database will be made available. These include an on-line facility via local and international networks; downloading data into users' computers (with data supplied in the MARC format for the library community) and, at some time in the future, a range of CD-ROMS. Already there are a considerable number of music industry organisations using the first two of the above facilities. He also noted that negotiations were now taking place with the BPI (British Phonographic Industry) with a view to creating a joint venture marketing company for The National Discography.

There followed a detailed demonstration (on-line from Helsinki to London) of The Discography, with special emphasis on opera recordings, given by Malcolm Tibber, Senior Repertoire Manager of MCPS. He began by explaining that there were three main and inter-related files. Firstly an artist file, giving detailed biographical information on artists and links with any groups or other performers to which they are musically related. This was followed by the recordings enquiry, giving details such as record company; label; artist; date of recording; date of publication or (P) date; venue of recording; copyright ownership in the recording; duration; primary and subsidiary artists etc. Each recording of a given work has a unique number, which equates to the ISRC (International Standard Recording Code) number. Indeed, every item that is contained within the UK National Discography database is uniquely identified by a computer generated number which, in all cases, could be used by or linked to existing internal numbers of potential clients of The National Discography.

The above led naturally to the product enquiry, and the variety of different ways that one could access a sound carrier. This began with Product Title eg. **Bizet Carmen** and proceeded to list all the recordings of **Carmen** contained in the database. We then looked at the content work or track. Here one could put in, say, an aria or song and get all of the recordings featuring that aria or song. This particular field is linked to the MCPS works file, which contains close to 2,000,000 musical works. These can be accessed by searchword, taking any two words out of the title or a combination of title and composer; classical searchword, which allows the use of keys and opus numbers as part of the search in addition to the above searchword facilities; compressed title, where one can search under the entire title or the initial few words; or by name of interested party, which can be a composer, librettist or lyricist, editor, arranger or music publisher. In many cases these works contain foreign language or alternative versions of the given title. All major European diacritics are used.

Back in the product file, sound carriers were also accessed by UK catalogue number and any variations thereof; by record company and or label; by artist, whether a major contributor at product level or a subsidiary one at track level; and by product numbers, which are any types of variations or additions to the UK catalogue number eg. alternative catalogue numbers; international numbers; barcodes; matrix numbers etc. It could also be the internal catalogue number of a user of this database, thus allowing the ability to have your own private cataloguing facility within The National Discography.

Being part of the Mechanical-Copyright Protection Society, The National Discography is responsible for licensing to the record industry most of the musical works appearing on sound carriers that are released in the UK. Equally, most musical compositions are registered with the Society, as are many spoken word items. These give details of publishers and copyright ownership information as well as creators of a given work, thus creating the basis for the most comprehensive recording and copyright database anywhere in the world.

Although this particular demonstration was devoted to opera, the database houses details on every kind of music from pop through jazz, blues, folk and world music to classical and, as already mentioned, including spoken word. Each of these major classifications is then further broken down into smaller specialist areas such as opera, shows, funk, dance, religious, country etc. We have about fifty different types in the classification and the National Discography employs thirty five expert discographers to cover all of these specialist areas with a another eight experts being budgeted for in 1994. In addition, there are a further twenty two repertoire staff broken down into three teams of general discographers; one devoted to checking cue sheets supplied by all of the UK radio and television stations for music used in their programmes; the second actioning data sent to MCPS by their equivalent foreign collecting societies detailing royalty returns on UK owned works; the third devoted to dealing with enquiries on The National Discography Helpdesk and licence applications from what we describe as Limited Availability Companies, that is local schools, churches etc issuing a small number of products for their own community.

Subsequent to the above on-line demonstration, MCPS had enquiries from libraries in many parts of the world asking for one or more of the facilities on offer, relating to both the data and the database itself. We are continually looking for organisations around the world with which to exchange data or link systems. These should include not only music related companies, but leisure, entertainment and cultural bodies interested in helping to build a unique international database.

For detailed specifications or general information on the UK National Discography, please contact: Malcolm Tibber, Senior Repertoire Manager, The National Discography, MCPS Ltd, Elgar House, 41 Streatham High Road, London SW16 1ER. FAX: +44 81 769 7163

# COPYRIGHT

## EXTENDING PUBLIC ACCESS TO SOUND ARCHIVES: AN INTERIM REPORT ON THE COPYRIGHT IMPLICATIONS OF PROJECT JUKEBOX

*A Crispin Jewitt, National Sound Archive, London, UK*

Paper presented to the open session of the Copyright committee at the IASA/IAML/IAMIC Conference in Helsinki, 1993

### INTRODUCTION

This is not a paper about copyright as such, that would be a baptism of fire for me when presenting my first paper to an IASA conference, but rather it is about project JUKEBOX and the implications of copyright law on the project as we understand them.

### PROJECT JUKEBOX

What is project JUKEBOX? The basic concept of the project is to provide a system which will offer distributed remote access to sound archives via, in the first instance, public and university libraries. It is an attempt to overcome what has often been a limiting factor for sound archives whereby the user has to attend in person, usually only in the capital city of the country or one or two select places. This limitation is quite significant when you compare the use of sound archives with the usage of library materials more generally. But the technology now permits an expansion of usage to sound archive material to a level approaching the norm in the case of libraries of printed material.

### JUKEBOX CONSORTIUM

In order to pursue this initiative a consortium was formed led by the State Media Library of Denmark comprising the National Sound Archive in London, the Discoteca di Stato in Rome and the West Norwegian Research Institute in Norway. A project proposal was made to the European Community for the very practical reason that there was a good chance of attracting budgetary support for the initiative and after discussion the shape and aims of the project and the consortium have signed a contract with Commission of the European Communities to gain 50% funding support for the activities of the project. It is budgeted throughout the term of the project - two and a half years.

### HOW WILL IT WORK?

The project is not intended to continue into the future, rather it is envisaged as a prototype which can be used by others.

The stages of the project are the standard, classic, ones of design, development, implementation, installation, testing and live running. The live running period will be

for 3 months, in the early part of 1995 and will involve user sites in each of the four countries and each of the sound archives involved. Each country will have two user sites in libraries apart from the sound archive or parent institution. After the three month period there will be a detailed analysis of the results, monitoring the performance of the system, both technical aspects and the user response to the service.

The first stage of the work in which the National Sound Archive was involved was an analysis of the context in which the system would operate. There are two aspects to this context: the technical context and the service context.

The technical context covered the hardware and software, the storage media for digital recordings, the standards for data compression and the various options on the telecommunications which will be necessary to deliver the service.

The area in which the NSA were more concerned was writing up the service context, and to do that we analysed five different aspects. We looked at similar developments worldwide both in the public and private sector. The second analysis was a market survey of user needs, the kind of service required, where it would be located, the kind of material, and the use of the material. Questionnaires were distributed in the four countries and followed up by workshops. Each of the analyses has been written up into a report. The third area examined was a survey of collections of the three archives, an analytic view of type of source material, published, unpublished, broadcast material and so on; subject coverage and also at the standards and availability of cataloguing data. The fourth survey was of the legal context of the system, and the fifth survey of the overall business context of the project.

#### WHAT IS THE LEGAL FRAMEWORK?

We should distinguish between Project JUKEBOX (which will develop a prototype system and subsequent, larger initiatives. In each of these cases the legal position remains the same, but the terms of the licensing agreements could vary.

The first question we have to ask is do we need a licence to operate?, what kind of service is it that we are providing? The answer will determine the kinds of licensing agreements that we will need to negotiate with the owners of copyright and other rights. Basically the question is are we a cable service or not? If we are a cable service then we have to register as such. There was much debate within the NSA project team on this question and we have taken further legal advice.

The second question we had to ask is what rights are held in the recordings that might require licensing to Project JUKEBOX?

There is copyright in works (such as those held by composers, arrangers, and authors) and there is a differing pattern for that across Europe as well as in each of the countries involved in the project. Secondly there is the question of copyright or neighbouring rights in the recordings. The national rights differ between the countries involved - in Italy they are 40 years, in the others they are 50 years, and in other countries in Europe they are shorter periods of time. Incidentally there is a draft in Brussels which sets the rights at 70 years, and this could have a significant effect for other countries.

Thirdly there is a question of performance rights, and the legal position simply stated is that performers consent is generally required for restricting and restricted acts, but that they have no absolute rights to withhold permission.

The third general question to address is what other legal constraints are there apart from the question of rights. Many archives will hold material for which special access agreements will apply which were on the terms of deposit although this does not affect the terms of deposit in many materials, It is something which has to be remembered in the terms of Project JUKEBOX, but it should not be a problem as we would normally deal with this.

More complex is the question of cross border issues; recording in one country could be accessed in another country where it is still protected; or a country offering a 20 year rule is made available in one which offers a fifty year rule. There is a small amount of case law to provide a precedent for this and there is an obligation to provide partial payments. However there is another draft EC obligation on cable and satellite which implies that all rights are payable and therefore to be negotiated at the point of origination.

The fourth question is what are the restricted acts; what may we do which requires negotiation.

The first one is the transfer of the recording from one carrier to another which may have significance to an archive like my own which has not been involved with such a project before but which has been making copies from one carrier to another in the interests of preservation.

The second restricted act is the inclusion in a cable programme service, and here the question of whether we are a cable service or not is particularly relevant. Thirdly there is a separate act which is the conveyance of the signal via a cable programme service, and fourthly there is the question of the taking of a copy by the listener.

#### **SOME ANSWERS**

These are the four general questions, now we have to determine the answers as far as Project Jukebox is concerned. How do we navigate a path through this minefield? The main way to do this is step by step, and one careful step at a time as one would in any minefield.

To begin with we have to take professional legal advice on the status of the Jukebox system to determine whether or not to register as a Cable service. This is already in progress.

We then need to determine and select the material to be included in the system. There is considerable scope here for lessening or enlarging the problems we may experience. There is out-of-copyright material in our collections which we could easily transmit in this way, but if we are to offer an attractive service it is reasonable to say that we should not limit ourselves to this material.

Having selected and identified the material we need to set aside the non-copyright items, so that we have an idea of the corpus of material we are dealing with.

There are then several organisations and individuals to approach for the relevant permissions to use the material. These include:

- the national broadcasters to negotiate permissions to include broadcast material, where such material is copyright to the broadcasters.

- the national performing rights societies for a blanket licence to include the selected works.

- the national mechanical rights organisations for a blanket agreement to copy the copyright music for inclusion in the service.

- the Phonographic Performance Ltd in the UK to see if they may be able to clear European dubbing and inclusion rights for commercial records through the International Federation of the Phonographic Industries (IFPI).

- the national actors and musicians unions for permission to re-record and include material in the service.

## CONCLUSION

That is the position. We are unlikely to be able to offer an attractive and useful service without including material still in copyright and must therefore work through the above actions over the coming months. We hope that this work will also have some longer term benefits in developing a dialogue between copyright holders and commercial interests, on the one hand, and libraries and archives on the other. Perhaps if we can dispel their worst fears, we can develop a relationship which benefits us both.

# MEETINGS

## THE MEMORY OF THE WORLD

*George Boston, Milton Keynes, England*

### 1. THE MEETING

From September 12th to 14th 1993, a meeting was held to discuss a new UNESCO programme entitled "The Memory of the World". The meeting was held in the Dom Polonii Hotel and Conference Centre in Pultusk, about 60Km North of Warsaw in Poland. The centre is on the site of an old castle and shares an island at the confluence of two rivers with the small town of Pultusk. The meeting was attended by some 24 representatives of archives, libraries and organisations from 17 countries and was opened by the Director-General of UNESCO, Federico Mayor. I was asked by IASA to represent the interests of the A-V archive community at the meeting.

### 2. WHAT IS THE "MEMORY OF THE WORLD" PROGRAMME?

The aims of the programme are very simple but have enormous implications for many areas of human endeavour. The aims are:

- To preserve for future generations the historic and cultural riches stored in the archives and libraries of the world.
- To provide as near universal access to the documents as is possible within the limitations of copyright and other laws that may apply.

The "Memory of the World" programme will involve and affect:

- a. Users of information - researchers, scholars and the general public.
- b. Manufacturers - the computer hardware and software industries.
- c. Information providers - libraries, archives, broadcasters, record companies.
- d. Owners of distribution methods - telecommunications companies and publishers of all types.

The "Memory of the World" programme will cover documents stored on all types of storage media:

- a. Manuscripts, books, newspapers and other textual materials.
- b. Prints, maps, music and other paper-based non-textual materials.
- c. Sounds and images, moving and still.
- d. Digital data on computer storage systems.

Even if the programme is only partially successful, it will revolutionise the way that access is gained to the major collections around the world. To achieve this, the documents will be copied and stored on a medium to be determined. As access to the collections is a key component of the programme, a digital, multimedia solution will be essential.

### 3. PRESERVATION STANDARDS

There are millions of mass-produced textual documents - books, newspapers, magazines, journals etc - that could be machine-read into a text file to preserve the information. Many other documents, however, are unique in various ways and must be stored in the form of a facsimile. It is not possible to preserve more than a relatively few selected items in their original form. If an attempt is made to preserve all the original artefacts in a collection, much more money and many more skilled staff will be required than for the "Memory of the World" programme. The scarce resources will be used on physical preservation programmes which will slow but not stop the decay processes in operation. For the majority of documents, digital preservation, offering the advantage of the future migration of the information to newer systems, will be the only practical method of long-term preservation.

Two basic principles must, therefore, be established from the start:

1. The digitisation must be performed to the highest technical standards.
2. Preservation copies must not be subjected to non-reversible data reduction.

### 4. ORGANISATION AND FINANCE OF THE WORK

An International Advisory Committee will oversee the programme. It will be assisted by two sub-committees; one for Finance and one Technical. It has been agreed that the programme will be split into smaller projects covering one institution or one collection within an institution. UNESCO does not have the money required to fund the programme. Rather than choose between projects, the money that UNESCO has available will be used to help the whole programme in several ways including:

- a. Publicity for the programme and projects within it - to create a public awareness of the importance of the programme and to attract funding, both private and public.
- b. To help match sponsors and donors to projects.
- c. To provide an overview of the total programme.
- d. To investigate the possibility of solving some of the legal problems that will arise.

Each project within the programme will be funded independently of other projects. The aim is not to have any projects coming to a halt because of a lack of cash or facilities. A detailed budget will be required for each proposal before it is accepted as part of the programme. This budget will have to cover matters such as:

- a. The size and sources of funds to carry out the work.
- b. Capital equipment costs.
- c. The cost of the copying programme.
- d. The staff requirements.
- e. Training requirements and costs of training.
- f. The costs of the future safeguarding of the collection.

Only when a project is considered viable will it be given approval to be part of the Memory of the World programme.

Marketing will not be carried out by UNESCO but the task be contracted out to commercial organisations with marketing expertise. Any money generated by commercial activities within a project will be shared between the project and its sponsors as laid down in the agreements between them. Commercial activities income will not be counted as an income source for the project budget. UNESCO will offer an advisory service to help ensure that the involvement of commercial partners does not lead to undue loss of rights by the owners of the material to be exploited.

## 5. THE FIRST STEPS

As with all programmes of this magnitude, a number of administrative steps are required to be carried out first. A survey of lost and endangered collections is to be carried out with the assistance of the various archive and library NGOs. These include, for the paper sources, IFLA and ICA; for musical scores, IAML; for moving images, FIAF and FIAF; for sound, IASA.

The endangered collections will be prioritised and sponsors sought to help rescue those most at risk. The list of endangered collections will be constantly updated and reviewed. With wars and natural disasters still threatening collections, emergency assistance will have to be available when required.

The re-creation of lost collections identified by the surveys will be attempted, where practical, by making copies of documents dispersed to other collections as spoils of war or purchase and by replacing those lost or destroyed with copies of duplicate documents held in other collections. This will help countries such as Poland, which, since the start of the 18th century, has lost approximately 95% of the nation's historic records either by destruction or by dispersal to neighbouring countries, to, in part, reclaim their heritage. It will also help answer the demands of newly independent countries for the return of documents from colonial times.

A major publicity programme will be organised by UNESCO to draw attention to the dangers facing many of the great and small collections around the world. The aim will be, at one level, to gain the interest of the general public and, at another level, influence governments. The assistance of academics from various disciplines will be sought to help spread the message. It is hoped that the interest aroused will bring sponsors to help support the programme.

This publicity programme will be funded by the remaining money - about US\$400,000 - allocated to the programme by UNESCO. This is seen as a gamble. If the publicity programme works, funds for projects will be available. If it is not successful, the few projects that could have been funded by the money will be delayed a little. If the gamble is not made, there is little chance of obtaining the funds required.

In the United States, a major increase in the grants - from US\$3M to US\$22M over a period of five years - to archives and libraries was granted because of the public's, in the widest sense, wish for improved access. The same driving force can be harnessed in other countries once the public are aware of what is available to them.

## **6. THE TECHNICAL ADVISORY SUB-COMMITTEE.**

The choice of the technology to be used will be crucial to the success of the programme. The Technical Advisory Sub-Committee will, therefore, be assessing the technologies available during the creation of the lists of lost and endangered collections and will make recommendations to the International Advisory Committee. Factors to be considered when assessing a system will include:

- a. Ease of access - can it be accessed remotely.
- b. Security of information - can it be tampered with.
- c. Ease of copying for use and diffusion of documents.
- d. Life expectancy of the system.
- e. Ease of migration to a new system in the future.
- f. Re-generation capacity - does it have a self-checking facility with automatic re-writing before errors cannot be corrected.
- g. Security of the system - for example, is the equipment etc multiple-sourced. Single-sourced equipment is more vulnerable to manufacturers going out of business and, usually, more expensive.
- h. Storage capacity - is the storage capacity large enough to hold millions of documents in image form.
- i. Information retrieval rate - can it cope with the requirements of television and films?
- j. Capital cost.
- k. Running costs.
- l. Specialist staff requirements.

## **7. TRAINING**

It is expected that many projects, at least for the first few years of the programme, will need to train staff in the various tasks to be performed. Many of the tasks are relatively repetitive and the staff performing these tasks will not require training in depth. Some higher level staff will be required and these will require longer training programmes. Training is expected to be a major item of expenditure in many project budgets.

There are, at present, few places where suitable training can be given. It is anticipated that a series of national and regional seminars and workshops, of secondments of trainers to institutions and of attachments of key staff to centres of expertise will be required.

IASA has been co-operating with the other A-V archive federations for several years to draw up curricula for the training of A-V archive staff. This work will form an important source of advice when drawing up the training programmes.

## **8. WHAT'S IN IT FOR US?**

### **a. Industry**

The opportunities offered by this programme to industry are immense. Even if it is not as wide-ranging as is hoped, many thousands of national and local initiatives will be required sooner or later to preserve their part of the heritage of the world. What is

lacking on the market is a suitable storage system. There are no insurmountable technical difficulties. It is a question of having the confidence to take the existing building blocks and put them together. A number of research projects around the world have demonstrated the practicalities of the basic concepts.

It is clear that no one manufacturer is able to produce and maintain the number of systems required worldwide. An element of competition will be healthy provided that compatibility is not lost. If systems are not compatible, the aim of universal access will not be achieved. The programme will not lead to technical stagnation if the migration of information to new systems is designed in from the start.

#### **b. Information Providers**

For providers of information, the commercial opportunities offered are very great. The work of the Belfer Audio Labs at Syracuse University before they were closed down, showed that automatic checking of copyright, automatic requesting of a differentially set fee - different levels of fee for the general public and for commercial exploitation - and automatic billing are entirely feasible. These will answer many of the worries expressed by information providers. The "sales" of information will steadily increase and, for the general public and scholars, should not mean excessive charges.

#### **c. Users**

The user will benefit in many ways from the explosion in easily available information. The time and money currently spent obtaining access to documents by either travelling to study them at the institution that holds them or trying to get good quality copies sent to you can be greatly reduced. The ability to sit in ones' own office and perform the initial sifting of material will speed the work of researchers of all types. The general public does not, at present, have access to many if not most collections. The experience in the United States shows that great interest and demand for access can be generated once the public are aware of what is available and can be given access. The use of automated methods of billing together with the capability of charging different classes of users different rates will mean that fees can, to a great extent, be tailored to the users pocket.

#### **d. Communications Companies**

The provision of remote access to collections will mean more use of communications networks. Data reduction protocols are steadily squeezing more and more information into a kilobyte. This, however, will not be the answer for many users. Data reduction means the LOSS of information. For researchers and others this is not acceptable. The problem is already being answered by the latest cable TV networks, with much increased bandwidth, which are offering the viewer individual choice of movies. Fibre optic technology is spreading closer and closer to the home and to the work place.

## SOUND AND IMAGE IN EAST AND WEST: AGAVA CONFERENCE GRAZ SEPTEMBER 14-18 1993

*Rainer Hubert, Österreichische Phonotheek, Vienna*

AGAVA (Association of Audiovisual Archives of Austria and an affiliated organisation of IASA) held a conference in Graz 14-18 September 1993, entitled Sound and Image in East and West. The aim of the conference was to improve the contacts between audiovisual archivists in Austria and their colleagues in the Eastern European countries.

Approximately 100 participants convened in Graz in the Bild- und Tonarchiv (the local organiser: head Dr Armgard Schiffer) for four and a half days. The interest for such a conference in Austria was greater than we had anticipated and more than half the participants came from Austria. Leaving aside some participants from Western countries, colleagues from the following countries were also present: Bulgaria, Croatia, Hungary, Latvia, Poland, Rumania, Slovakia and Slovenia. Particularly remarkable was the interest which the photo archivists took. In fact they formed the largest proportion of the participants. The problem that no international organisation for photo archives exists was mentioned often in the discussions of the conference.

The idea of the various sessions of the conference was to give an overview of the professional work of audiovisual archivists as seen by both Western and Eastern colleagues. In discussions differences and parallels were made visible, and although the formula worked quite well it was regarded as only a beginning moving towards an understanding of the common problems. The discussions must go on based on a continual exchange of information. The programme of the meeting contained several lectures on general topics - audiovisual media and society, the importance of cooperation and a typology of audiovisual archives. For the last two lectures we were fortunate to have international speakers: Rolf Schuursma and Grace Koch. Shorter lectures and discussions followed. In the afternoons we had workshops about technical subjects or cataloguing, and in the evenings film presentations and other events.

In the closing session the participants felt that such meetings should be repeated, but that this alone would not be enough: the contacts should be kept up continuously and be enlarged. The information about other organisations even within one country, let alone within the whole region, is so thin that something has to be done to improve the situation. This is to be tried by forming a Central and Eastern European network of Audiovisual Archives (CEENAVA) on a very informal basis. AGAVA will give organisational support to this effort - and of course the support of IASA would be very welcome.

**CEENAVA**  
**CENTRAL AND EASTERN EUROPEAN NETWORK OF AUDIOVISUAL  
ARCHIVES**

**An Initiative for the Safeguarding of the Audiovisual Heritage of Central and  
Eastern Europe**

From 14-18 September 1993 the first *Mittleuropaische AV-Mediengesprach* convened more than 100 experts in Graz, Austria. Topics concerned collections of photographs, motion pictures, video and sound recordings. In order to continue and broaden initial contacts the establishment of a network between Central and Eastern European audiovisual archives has been agreed upon.

The aim is to exchange information effectively on questions related to audiovisual archives such as

collection  
organisation  
cataloguing  
preservation and restoration

Medium term goals are:

list of priorities for the safeguarding of endangered collections  
improvement of access and distribution  
organisation of joint projects, publications and exhibition  
compilation of a directory of audiovisual collections

Each country will have a national coordinator. In its initial stages the overall coordination will be in the hands of Dietrich Schüller, Secretary General of AGAVA, Vienna, Austria.

For further information contact: Dietrich Schüller,  
Phonogrammarchiv  
Liebiggasse 5, A1010 Wien  
Austria  
Tel: +43 1 40103 2734  
FAX: +43 1 4030465  
email: pharchiv kfs.oeaw.ac.at

## REVIEWS AND RECENT PUBLICATIONS

### REVIEWS

*First International Symposium on Digital Audio Broadcasting, Montreux, 8-9 June 1992. Strategies for the introduction of DAB worldwide.* Geneva, EBU, 1992. 283 pp, 29 x 21 cm. Available from the European Broadcasting Union, Ancienne Route 17A, CH-1218 Grand-Saconnex, Switzerland.

The digitalization of sound is an ongoing process which is going to change the profession of sound archiving radically in the course of the coming decade. Digital recordings are already commonplace in most sound archives. Now we are told to expect digital broadcasts by the mid-nineties.

This useful collection of articles presents plans by the European Broadcasting Union to introduce digital audio broadcasting (DAB) in Europe in the near future. As most important European radio stations are members of EBU, this means business. The materials range from technical descriptions of the system to studies of the consumer market for DAB receivers.

The "Eureka 147" standard of digital broadcasting has been developed by major European electronics firms with financing from the European Community. The first public digital broadcasts will probably be heard in Germany and France in 1996. By that time manufacturers are expected to have reasonably-priced consumer-type digital receivers available. However, the complete transition from analog to digital broadcasting will take at least 10 - 15 years, as long as it has taken for the compact disc to replace the analog vinyl disc.

All digital broadcasts will use digital compression. The compression system adopted for DAB will be ISO/MPEG/Audio Layer II. The words "digital compression" or "bit reduction" sound a warning signal in the ears of many sound archivists. Recordings made off-the-air from digital broadcasts will contain the signal in a reduced form. It may be possible to obtain a copy of the program in uncompressed form from the source, but eventually most production facilities at broadcasting stations will probably also adopt this standard. This is not the place to discuss the pros and cons of digital compression; I will just note that the articles in this volume present the system from the users' point of view.

*Pekka Gronow*

**Michael W Sherman:** *The collector's guide to Victor records.* Dallas, Texas, Monarch Record Enterprises, 1992. 176 pages, illustrated, 21 x 14 cm.

**Frederick O. Barnum III:** *"His Master's Voice" in America. Ninety years of communications pioneering and progress: Victor Talking Machine Company, Radio Corporation of America, General Electric Company.* Camden, N.J. 1991: General Electric Company. 388 pages, illustrated.

**Hugo Strötbaum:** *Favorite Records. Seventy-eight revolutions per minute in the Levant.* Utrecht 1993. 60 pages, 29 x 21 cm. Available from the author at Abstederdijk 61, 3582 BB Utrecht, The Netherlands.

Students of the recording industry have learned to look for information from a wide variety of sources: trade publications, company histories, fan magazines, and occasionally but with increasing frequency today also from academic journals. The present crop of publications is in this sense quite typical.

The Victor Talking Machine Company, founded in 1901, was for a long time America's leading record company. Michael Sherman's "Collector's guide to Victor records" is just that: it is intended for the collector who is interested in dating his records and determining the relative scarcity of various pressing. We learn the difference between the wing label (1914- 1926) and the scroll label (1926-1937), and note that the only picture record by Enrico Caruso was issued in July 1933 and intended for distribution in the Latin American market. But from this mass of details emerges an accurate and useful history of the company.

Frederic Barnes' study of the same company is written from a completely different viewpoint. In the late twenties Victor was taken over by the Radio Corporation of America (RCA), which was to play an important role in the development of radio and television broadcasting. In 1986 the company merged with General Electric Company, another huge electronics and communications concern. By the nineties, the companies had sold their record division, and RCA records became BMG.

This richly illustrated book is a company "Festschrift" which traces the genealogy of the concern from the founding of Victor in 1901. The emphasis is on products and personalities. Nevertheless the book manages to place the history of the recording industry in the wider context of communications and electronics industries.

Hugo Strötbaum's pioneering study of a little-known German record company finally brings us to the academic world. Favorite records was acquired in the 1910s by the Lindström company (Odeon, Parlophon), and the label disappeared. But in a decade this pioneering company had managed to make a large number of recordings in many parts of the world, including Turkey, and area in which the author is specially interested. No recording files or other archival materials of the company survive, but through diligent work Strötbaum has managed to reconstruct in great detail the history of the Favorite company and their recording expeditions in Ottoman Turkey. This slim volume is strongly recommended to anyone interested in the early history of the European recording industry.

*Pekka Gronow*

**Harriet Harrison**, compiler and editor, *The FIAF Cataloguing Rules for Film Archives*. Munchen. K G Saur, 1991. 239p. ISBN 3 598 22590 3.

The FIAF Cataloguing Rules are an excellent guide for those cataloguing archival films on an ISBD based library system. And even where the institution has adopted its own tailor-made system, such as the National Film and Sound Archive in Australia, these rules provide a good basis for descriptive cataloguing and are full of relevant examples throughout the text. They cover close to the full range of the types of materials moving image archives catalogue including TV news, TV series, Newsreels, Features, Home movies and Commercials. One notable omission is Video Clips. The other shortcoming is in the area of physical description, where archival collection management needs are not met.

The rules represent the combined efforts of the members of the Cataloguing Commission of FIAF (Federation Internationale des Archives du Film), the major international body for archives of film and video. The commission has also drawn on the US National Standards for cataloguing archival moving images, *Archival moving image materials; a cataloguing manual*, compiled by Wendy White Hensen from the Library of Congress. This latter publication is also recommended for institutions interested in cataloguing archival film and video, although there are many similarities between the works.

The FIAF Rules are based on the prescriptions found in the International Standard Bibliographic Description for Non-Book Materials (ISBD/NBM) (London: IFLA International Office for UBC, 1977, rev. 1987) 'in order to achieve as much standardisation as possible with the guidelines and principles of the international library community' (p. 1). Thus the basic descriptive record structure is familiar to most library cataloguers. Rules for names are not included, and it is recommended that Cataloguers base these on AACR 2 (Anglo American Cataloguing Rules, 2nd ed). Subject access is also not covered in this work, and here the recommendation is to use a standard classification scheme or thesaurus, which is likely to need modification to suit the requirements of specialised areas within the media, e.g. to cope with film genres.

While the rules contain many similarities to other library cataloguing rules, they also contain some important differences, or changes of emphasis to suit the particular requirements of cataloguing archival moving image media. In addition there are a number of optional or alternative rules, suggesting that a particular institution determines which of the options is best for them, and sticks to it.

Copyright is one such issue, because archives do not usually own the rights to distribute moving images in their care. A separate optional rule has been set up where an original and current copyright owner can be named, as well as an indication of when the cataloguer has not been able to determine copyright. There are others.

The use of the GMD or General Material Designation is not recommended since full physical details are given elsewhere, and holdings for individual titles may include materials in both film and video format. The parallel title field has been expanded to include any other title by which the work may be known, at the institution's discretion. Standardised additions to titles have been recommended in order to further explain a title, or distinguish it from other similar works, e.g. CHARIOTS OF FIRE: [TRAILER-TV] and SOME LIKE IT HOT: [STUDY FRAGMENT]. Rules for

untitled works have been included, which is a common problem at the National Film and Sound Archive. Using standardised or descriptive titles is recommended for such cases.

Summary information is included in one of the notes fields, as is usual in library cataloguing, and provides some useful guidelines for compiling summaries, with a good range of examples.

An important issue for archives is the relationship between copies: the rules recommend cataloguing all physical representations of a work under the one record, each arranged in a standardised manner, accurately and carefully on multiple lines. This area is probably the main area where the rules in this format fall short of truly meeting archival requirements. This way of describing copies does not make clear the copying generation information, ie. from which copy a particular reference copy has been made, and this is very important for managing the collection, and for exactly duplicating further copies. Moreover it is very hard to delineate the archival status of a copy: whether it is a preservation, duplicating or reference copy. While this can be added to the system, the need to amend the status of copies will occur, which will cause confusion in the entry. This system of describing physical units is not ideal for the efficient management of an archival collection, and would need to be enhanced or replaced by a system which catered for the preservation and physical management of the collection.

The rules are full of explanations for the standards they have prescribed, and of the optional rules they provide. They also include a wide range of examples of full cataloguing records, catalogued in different languages, to different levels. There is a glossary, which is quite useful, especially for some film and TV industry terms. The Appendices include conversion tables for time and length, abbreviations used, FIAF Archive codes, a bibliography and a helpful index.

A must for institutions which catalogue archival films, and of interest to those who catalogue moving images in general.

*Kate McLoughlin, National Film and Sound Archive, Australia*

In the *Information Bulletin* and in the list of publications in this *Journal*, we announced the publication of the *World Directory of Moving Image and Sound Archives*. A limited number of copies of this publication are available at a special price for IASA members of 2000 Belgian francs. Applications should be made to the Secretariat, FIAF, 190 rue Franz Merjay, B-1180, Bruxelles, Belgium. Please send cash with order.

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## APOLOGY

In the IASA Journal no. 1, May 1993 (pp. 89-92) a review appeared of a book and CD/MC by Michael Hauser, *Traditional Icelandic Music*. The review was written by George Brock Nannestad although not credited.

Unfortunately on page 90 a false accusation is made to the effect that Michael Hauser used material collected in Greenland in 1906 by the Phonogrammarchiv der Österreichische Akademie der Wissenschaften in Vienna, without permission and re-copied material for archives in Greenland and Denmark. Michael Hauser corrects these errors by stating that the Danish and Greenland archives bought the material directly from the Phonogrammarchiv in Vienna and that the Danish Folklore Archives received written permission to use two songs from the collection in the published CD/MC issued with the book.

George Brock Nannestad has written to apologise to Michael Hauser for the 'unfortunate choice of words' which led to the false impression his statements have had and for any embarrassment caused.

The Editor of the Journal would also like to apologise sincerely to Michael Hauser for any damage caused by the review.

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## RECENT PUBLICATIONS AND ARTICLES

Child, Margaret S, compiler

*Directory of information sources on scientific research related to the preservation of sound recordings, still and moving images and magnetic tape.* The Commission on Preservation and Access, Washington DC, 1993. pp. 14p.

An up-to-date list of useful sources of information and advice for the listed materials. Includes laboratories and organisations, databases, serials, monographs and articles and conference proceedings. Very succinct and packed with information. As expected it concentrates on US sources, but there is a fair sprinkling of international organisations and one or two non-US literature sources.

FIAT

*FIAT-IFTA Yearbook, 1993.* FIAT, Turin, 1993.

Includes information on FIAT activities, membership, Statutes and publications.

Hubert, Rainer

Wohin gehören AV-Medien? *Das Audiovisuelle Archiv*, 31/32 September, 1993. pp.63-72.

Klaue, Wolfgang, editor

*World Directory of Moving Image and Sound archives.* Film-television-sound archive series Vol.5. K G Saur, Munich, 1993.  
577 entries

Schüller, Dietrich

Audiovisuelle Archivierung an der Schwelle des digitalen Zeitalters. *Das Audiovisuelle Archiv*, (27/28), 1991. pp. 17-34.

Schüller, Dietrich

Behandlung, Lagerung und Konservierung von Audio- und Videoträgern (handling, storage and conservation of sound and video carriers). *Das Audiovisuelle Archiv*, 31/32(September), 1993. pp. 21-62.

Updated version of articles published in 1978 and 1983 which dealt with sound carriers only.

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These are only a very few publications noticed in the past month. There must be many more. The Editor and Reviews Editor would both like to here from members who notice particular items of interest. Please send a note of any material or a copy of contents pages you think would be of interest to fellow members. The addresses for material are on the front inside cover.

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