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Internationale Vereinigung der Schall- und Audiovisuellen Archive

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The IASA Journal is published twice a year and is sent to all members of IASA. Applications for membership of IASA should be sent to the Secretary General (see list of officers below). The annual dues are 25GBP for individual members and 100GBP 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 35GBP.

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 25GBP pour les membres individuels et 100GBP 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 35GBP.

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 25GBP für individuelle Mitglieder und 100GBP für Institutionen. Frühere IASA Journal (ab 1971) sind auf Anfrage erhältlich. Der Bezugspreis des IASA Journal für Nicht-Mitglieder beträgt 35GBP.

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EDITORIAL

An important centenary relating to the history of sound recordings was recently celebrated in the United Kingdom. In 1887 Emile Berliner established the English Gramophone Company which later evolved into His Master's Voice (HMV) and latterly EMI, one of the world's major recording companies. The celebrations, held at Glyndebourne, were by all accounts suitably lavish and included performances by prospective vocal stars Ian Bostridge, Alison Hagley, Natalie Dessay and Roberto Alagna with Angela Gheorghiu. The only voice from the past was the 72-year old Nicolai Gedda, sufficient reminder of the illustrious procession of great performing artists, starting with Caruso, with whom the company has been associated.

Will there be similar celebrations at the next centenary? Moreover, will sound archives still be celebrating their symbiotic relationship with the commercial recording industry which has been enjoyed already for best part of one hundred years? Were there to be no change in this relationship - whereby the industry makes a reasonably profitable business out of producing marketable recordings, many of which attain enduring aesthetic value, while sound archives guarantee their long-term preservation and make respectful and accurate catalogues to assist with various activities sanctioned by the doctrine of "first sale", such as a listening service - I think we would also say "yes" without hesitation. The answer is less certain, however, when we consider the introduction of digital technology to the agenda of each party and its potential for bringing about major change. While the industry (at record company level) is being surprisingly slow to develop products and services which are digitally stored *and* distributed - perhaps because of the large investment made in traditional distribution to retailers - sound archives, unencumbered by such investments, have been quick to seize the opportunities derived from the new technology. These include the possibility of reducing running costs while dramatically increasing user figures, irresistible good news for institutions battling to preserve their subsidies. But the problem for the sound archives is that their freedom of action in developing new means of access, such as by remote users, is severely constrained by reproduction rights: no sound archive that I know of owns the rights to enough recordings in its collections to make a viable business out of distributed access and it may be that those rights only give them scope to deliver within their own territory. To venture, as Project JUKEBOX did, beyond these walls is to challenge the precepts of the relationship.

There are a number of fora in which the issues associated with digital distribution and its impact on our relationship are being debated. IASA is actively involved in some of these fora. In Europe there is HARMONICA (see Albrecht Häfner's report on page 9 of this issue). Although confined to music it does include representatives from Project MUSE, which is co-ordinated by the IFPI Secretariat and which is aiming to achieve a

degree of uniformity in the “technical space” between server and user, i.e. interface and encryption/embedding standards. In the United States the Committee on Libraries and Intellectual Property and the National Humanities Alliance have recently co-published on the Internet ¹ *Basic principles for managing intellectual property in the digital environment* in an effort to build consensus within the American educational community. Meanwhile, on an international basis, IFLA this year is holding a major workshop and open session at its annual conference in Copenhagen (August 1st - September 5th) on the essential components of open network environments; retrieval protocols, inter-lending protocols and internet metadata.

In an attempt to co-ordinate information about all these activities for IASA members, while at the same time edging ourselves towards a new accommodation with the recording industry on the question of rights, the IASA Board has agreed to take up the offer made by IFPI Director of Legal Affairs Lewis Flacks (see *IASA Journal* 8 pp.36-43) to set up a working group with us. Initial statements of intent have been exchanged and it is now up to the IASA Board to determine the best means of representing our interests.

Digital technology has also had a major impact on our traditional activities, notably the business of archiving *per se*. The IASA Technical Committee has prepared, in timely fashion, *The Safeguarding of the Audio Heritage: Ethics, Principles and Preservation Strategy*, the third publication in an ongoing series of “Standards, Recommended Practices and Strategies”. This was regarded as an important reference paper in its own right and has therefore been published separately for distribution with this issue of the *IASA Journal*. Extra copies can be obtained from Magdalene Cséve.

Someone who would have taken great interest in the Technical Committee’s recommendations, and also in our various initiatives to improve access, was Michael Gerzon. I first met Michael Gerzon more than twelve years ago at the Serpentine Gallery in London. Free improvisation pioneers AMM were giving a rare public performance before a politely attentive audience of Saturday afternoon visitors. The lead from a single stereo microphone (*Soundfield?*) could be traced from the stage area back to a professional tape recorder at the front of the audience over which presided the enraptured figure of Michael Gerzon, acoustician, sound engineer and collector of any recording as long as it was not mass-produced.

Michael Gerzon was not associated with IASA in any way but members of the Technical Committee will have known him well and respected his insights and inventions as well as his contributions to the business of the Audio Engineering

¹ <http://www-inch.cni.org/ISSUES/COPYRIGHT/PRINCIPLES/NHA_Complete.html>

Society (AES). He was also a benefactor of my organisation, the National Sound Archive, donating many valuable recordings, mostly of his own making. This issue of the *Journal* is dedicated (if that is not too presumptuous) to Michael Gerzon and his contribution to sound recording. He died a year ago this month.

At the time of his death Michael was due to give a paper at the AES Convention warning against the destruction of analogue master recordings, a favourite IASA theme. This was read by Sean Davies and I asked him if IASA could have permission to re-print the paper as it seemed likely to contain some valuable points of view relating to the rush to digitise and the enticing but possibly exaggerated claim that sound archivists (like fellow librarians) should now be considered custodians of the message rather than the medium. Permission could not be obtained, unfortunately, but I understand that the AES are considering a publication of reprints of his most important papers.

I maintained in my previous editorial that the radio sound archives were in the best position to lead IASA's way forward into the digital era. The various reports given at the Radio Sound Archives open session at the Perugia Conference indicate that a number of bold steps have already been taken. (To obtain a balanced view of that session I recommend that you re-read the paper by Ulf Scharlau "Digitisation and its consequences for radio sound archives" which appeared in *IASA Journal* 8). But what is missing from these accounts is any mention of control over transmission and dissemination from the point of view of rights management. The key to the successful implementation of new storage and telecommunications technology in sound archives appears to be bound up with this control which is not so much a matter of acknowledging that these rights exist but of maintaining numbering systems which represent those rights and trigger royalty payments.

This is an interesting issue for cataloguers. While a company's wealth was tied up in physical objects to be manufactured and distributed for sale in shops it was possible for that company to adhere to its own set of numeric controls. Now that the physical boundaries are beginning to disappear (the "shop without walls"), the traditional controls are proving inadequate and nobody seems able at this time to decide on what the set of new shared controls will be. These shared controls will take the form of unique numbering systems and whoever owns the numbers stands to make the biggest profit from percentages. One can understand the reluctance of those who currently maintain separate systems to transfer to a new shared set while at the same time you, the sound archivist, are thinking how on earth you are going to update all of your catalogue records retrospectively with these numbers. The necessary build up of a critical mass of sound recordings derived from the collections of sound archives,

whereby the full diversity and variety of the recorded heritage can be accessed and enjoyed by all, therefore seems to me, at present, a mirage.

Time to look back over the shoulder? Peter Copeland at the British Library gives us the benefit of his "archaeological" research into BBC numbering systems and what they imply for the purposes of reproduction while Mary Miliano surveys the development of the collections management system at the National Film and Sound Archive in Australia during the last five years.

**IASA Journal is constantly looking for material to publish:
articles, reviews, reports of meetings or new developments.**

The next issue will appear shortly after the Annual Conference in Muscat, Oman and will therefore reflect the business of that occasion. But as you will have seen in the last *IASA Bulletin*, the membership has been increasing and I will be encouraging new members to introduce themselves.

Please send anything which you consider to be of interest to IASA to the Editor at the address on the front inside cover.

Please send copy on PC floppy disk in ASCII format or Word for Windows version 2 or version 6 or simply as text in an e-mail.

If this is not possible, then good quality hard copy, **double spaced** will do.

If possible, include abstracts (maximum 250 words each)
in French, German or English.

The final date for copy of the next issue, Number 10,
to be published in November 1997 is

31 October 1997.

PRESIDENT'S LETTER

At several occasions during the last years, especially when "The future of IASA" was on the agenda, the Board has been urged to concentrate more on "strategic planning": to better define the role of IASA as an international organisation, especially in view of the rapidly changing media situation with regard to structure, content and technology; to plan more efficiently for our regular internal business, ensuring that productive work is also done between meetings and conferences. The new Board has taken on the challenge and a first draft of the *Strategic Plan of IASA* was ready for discussion at the mid-year Board meeting in Paris last February.

Are the overall aims and goals of the Association, as formulated in the Constitution, still valid? What can we do to improve communication and co-operation between member archives? Could we make the annual conferences more attractive? How could we increase the membership? Is sponsorship a feasible source of funding for some of IASA's activities? Those are just some of the questions the Board discussed in Paris. There will be a second draft ready for the General Assemble in October and I welcome all of you to participate in an open discussion there. We need your contribution.

Communication between members is essential to every organisation and a membership list is a basic service that must be provided. The last IASA membership list was published in 1989 and there was an urgent need for a replacement. Thanks to the Treasurer Mark Jones and the Editor Chris Clark we have now been able to publish the *IASA Directory 1997*. Since we all, every now and then, change addresses, telephone and fax numbers, etc., it is natural that the membership files become out of date quite quickly. Please don't forget to inform the Treasurer when such changes take place so that the next edition, which will be published in 1998, contains the most up-to-date and correct information. I would also recommend that you pay a visit to the new IASA web pages (<http://www.llgc.org.uk:80/iasa/iasa0001.html>). Iestyn Hughes at the National Library of Wales is our "webmaster" and I would like to thank Iestyn and the National Library of Wales for hosting the IASA web-site.

IASA is an *international organisation*. There has been a tendency, though, for IASA to be too Eurocentric, which is natural since most of our members are from Europe. We need to develop the Association by intensifying our recruitment activities and making IASA better-known in other parts of the world. In line with that policy, the Board decided several years ago that every third year we must hold the annual conference outside Europe. This year, as you know, we are able to invite you for the first time to a IASA conference in an Arabic country, Oman. Don't miss this exciting opportunity to get together with new colleagues. We can learn from their experiences and we can all share our knowledge and expertise with them. I look forward to seeing you in Muscat.

Sven Allerstrand

REPORTS

SEAPAVAA 2 IN JAKARTA

Ray Edmondson, National Film & Sound Archive, Australia

Flanked by palm trees and flowers in the tropical heat and humidity of downtown Jakarta - just 6 degrees south of the equator - the National Library of Indonesia occupies a stately, restored Dutch colonial mansion linked to a stylish high-rise; a striking and harmonious architectural combination which formed the backdrop for this year's SEAPAVAA conference.

SEAPAVAA - the South East Asia-Pacific AudioVisual Archive Association - was formally established in February 1996 by the representatives of some twenty founding audiovisual archives, meeting at an inaugural conference in Manila, Philippines. This second annual conference was held in Jakarta from 17 to 21 March 1997, with the National Library's auditorium serving as the main venue. Joining the Library as hosts were the Indonesian Department of Information, the National Archives of Indonesia and the Sinematek Indonesia. In addition, television networks and film companies hosted individual functions on the conference program. The conference was officially opened by Mr Dewabrata Kobarsjih, Director-General of Radio, Television and Film, Department of Information of the Republic of Indonesia.

Twenty-six delegates and nine observers participated in the Conference, coming from Australia, Brunei Darussalam, France, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. (In addition, members who were unable to attend, due to the relatively short lead time, appointed proxies). These were joined by members of the diplomatic corps, staff members of host organisations and the media industries who attended particular events in the program.

The conference theme was *Audiovisual Archiving: Empowerment towards the year 2000*. A key objective of the gathering was to construct and adopt SEAPAVAA's first three-year strategic plan to develop audiovisual archiving in the South-East Asia-Pacific region. The conference program included:

An ideas forum - a discussion and presentation day for sharing news of new developments in the region, of inspirational ideas and projects to spark lateral thinking. Among the topics were Dr Ngo Hieu Chi's description of the successful treatment of vinegar syndrome at the Vietnam Film Institute, Annella Mendoza's presentation on the 3-year plan for standardising cataloguing and information sharing throughout the ASEAN region, Bel Capul's and Augustin Sotto's briefing on developments towards establishing a new National Film Archive in the Philippines,

Ediyami Bondan Andoko's description of legal deposit arrangements for AV materials in Indonesia, and a presentation by Helen Jarvis and Paul Wilson on the forthcoming Internet course on audiovisual management to be offered by University of New South Wales/National Film and Sound Archive of Australia.

The strategic planning workshop - a series of group activities, discussions and plenary sessions which produced a draft 3-year plan, then referred to SEAPAVAA's standing committees and General Assembly later in the week. This was the most concentrated day of the conference. It began with a tower building exercise (each group had to design and construct a free standing tower from match sticks and modelling clay!!) to draw out insights on the dynamics and importance of planning - and ended with a completed grid of objectives and implementation plans.

Visits to SEAPAVAA member institutions in Jakarta - TV Indosiar and Sinematek Indonesia. Delegates had a chance to see the work-in-progress on the Sinematek's new building.

Committee meetings: SEAPAVAA's three standing committees (Technical, Collections and Training) met to review their own programs and the draft strategic plan.

Crash course in Indonesian Film History - Misbach Biran, Director of the Sinematek Indonesia, presented a potted history of his national cinema, illustrated by excerpts from key Indonesian films, drawn from the Sinematek's collection.

General assembly - the annual general meeting of SEAPAVAA, which formally adopted a final text for the Strategic Plan, received Committee reports and ratified admission of new members (4 full, 3 associate institutional, 15 associate individual).

And, yes, there was a **social program**. Delegates were superbly provided for gastronomically and culturally, with a heady mixture of regional cuisines, traditional music and dance. An excursion on the final day to Taman Mini Indonesia Indah ("Miniature Indonesia"), a vast theme park on the outskirts of Jakarta showcasing the country's ethnic and cultural diversity, was a fitting wind-down to an intense week.

A special event during the week was the presentation to Misbach Biran, pioneering film archivist, and founder and Director of the Sinematek Indonesia, of SEAPAVAA's first Life Achievement Award. For more than twenty years, Misbach has stood for the cause of film preservation and he worked tirelessly, with limited resources, to establish his country's first film archive. By holding firm to his vision he has been an inspiration to others, and the conference provided the opportunity for Misbach's

colleagues to at last formally recognise and celebrate his seminal contribution to audiovisual archiving.

The main outcome of the Conference, the three-year Strategic Plan, is being formatted as a discrete document and copies will be available soon from the SEAPAVAA Secretariat, c/- Philippine Information Agency, Visayas Avenue, Diliman, Quezon City, Philippines - fax 63 2 920 4347.

Also available is the *SEAPAVAA Newsletter* (published every 6 months), and the SEAPAVAA Constitution. Applications for full membership are invited from audiovisual archives within the South-East Asia-Pacific region: associate membership is available to institutions and individuals worldwide who are interested in the region and wish to identify with SEAPAVAA's objectives.

During the Conference week, a phrase which emerged and found ready acceptance was "the spirit of SEAPAVAA". Everyone used it, no one tried to define it, but it seemed to encapsulate the sense of unity, community and mutual affirmation in a shared mission which was palpable to everyone present.

The next SEAPAVAA annual conference will be held in Hanoi, Vietnam, in late March/early April 1998, hosted by the Vietnam Film Institute. Further information, as planning develops, will be circulated on the listserve - or if you wish, advise the undersigned and you'll be put on the mailing list.

SEAPAVAA contact points:

President: Ray Edmondson email: Ray_Edmondson@nfsa.gov.au

Secretary-General: Bel Capul email: bsbc_pia@mailstation.net
or mpd_pia@mailstation.net

HARMONICA: Concerted Action on Music Information in Libraries *Albrecht Häfner, Südwestfunk, Baden-Baden*

The IASA Secretary-General was kindly invited to attend, as an observer, the first Forum Meeting of HARMONICA (Harmonised Access and Retrieval for Music-Oriented Networked Information - Concerted Action), held in Athens on March 14th, 1997.

The main aim of HARMONICA, an EU-funded initiative, is to improve access to music collections of different types through libraries while taking into account the needs of various groups of users in the evolving world of networked information and multimedia. Consequently, audiovisual archives are very likely to get involved as suppliers of content, although HARMONICA is running under the libraries sector of the European Commission's Telematics Application Programme.

The concerted Action aims to provide a solid strategic framework for networked access to music and related multimedia services, including technologies, existing and emerging standards, explorations of network options and improved interfaces. This will entail fostering consensus between the broad range of players involved in the field. The first phase of this concerted action which will last approximately ten months will be concerned with mapping the current situation and the difficulties experienced, as preparation for defining in more detail the work to be carried out in the following period.

The participants

The project is co-ordinated by the Studie- en Vakbibliotheek in Amsterdam, with associate partners from France, Denmark, Italy, The Netherlands, Greece, Sweden and Austria.

The work plan

The overall activities will be divided into two phases. In essence the first phase will, through three series of investigations and a range of concentration activities, be used for mapping out the current state of the art and the areas which are of greatest concern within the objectives and limitations of a Concerted Action. The second phase will concentrate on achieving consensus in those areas which will have been selected in the first phase, and thereby developing an infrastructure for further research and development based on that consensus. The second phase will last for approximately two years. The total duration of HARMONICA will not exceed three years.

Working method

The principal activities within the objectives of pooling experience from ongoing projects in the Libraries sector (and related programmes and sectors) and complementing it with expertise from librarians, suppliers, service providers (and, hopefully AV archivists) involved in the sphere of music information, will be:

- the organisation of meetings, workshops and discussion groups in order to bring together interested parties;
- the investigation, by means of information collection and feasibility work, of topics liable to contribute to the creation of a more robust framework for future applied R&D in the area.

A Steering Group will form the policy of the Concerted Action and will ensure that tasks and other activities are defined in accordance with that policy and carried out according to the agreed working plan. Task groups will be formed to co-ordinate investigate work in three separate but interacting areas:

- catalogues and collections
- user requirements and interfaces
- networking and digitisation

Survey of existing music projects

As I mentioned above, it is the main task of HARMONICA to start with the mapping of existing music projects (international, regional, national and local). It was the request of the Athens Forum that we obtain an overview of as many projects as possible concerned with the technical aspects of access to and delivery of music information, including scores, recorded music and other associated documents. The following projects were introduced shortly:

CANTATE

This now completed project has developed a system which allows access to (distributed) music catalogues and the on-line delivery of sheet music.

MUSICA

MUSICA is currently a choral documentary search tool as well as a pedagogic tool for conductors, musicologists, schools of music, music federations, music stores, etc., but

also for amateurs and people eager to know about the choral music repertoire. It aims in the future to become a virtual electronic library of the choral music repertoire.

TMI

A project to publish a number of sixteenth- and early seventeenth-century music treatises in Italian on CD-ROM. This collection is provisionally call the *Thesaurus Musicarum Italicarum* (TMI).

JUKEBOX

The Jukebox project was carried out in co-operation with IASA members. The aim was to set up and test a pilot system for a new library service, where library users at remote distances can get on-line access via ISDN to sound recordings held in archives in European countries.

PARAGON

Paragon aimed, as a follow-up to JUKEBOX, to provide library users with a single gateway to three major sound archive catalogues via Netscape and the World Wide Web.

MUSICWEB

MusicWeb is taking an inventory of the problems in computer aided music education and will produce software solutions for the future.

MODE

The overall objective of the MODE project is to test, evaluate and implement a viable commercial service for the promotion by the European music industry. It will provide access to a telemetric service targeted for private consumers, radio stations, music schools and the music industry. The service will comprise electronic ordering, listening, purchasing and delivery of recorded music covering a broad range of music styles.

PLAY

PLAY is aimed at creating a system composed of hardware and software designed for input, storage and for sound and graphic output (both printed and in Braille format) of musical pages for the visually handicapped.

MUSE

The MUSE project focuses upon the following objectives:

1. Standardisation of interfaces within digital media communication systems
2. Survey of embedded signalling systems
3. Survey of encryption technologies applicable to digital media files.

The project aims at a generic scheme which will enable the European music industry to supply multimedia recordings to professional and private users.

Further projects which were not described were *CONCERTO* (Braille translation of scores that provide an export capability to NIFF files; *NIFF* = Notation Interchange File Format), *GREATCOM* (Great composers on CD-ROM as well as at a Web site), *Dansk Lydhistorie* (different types of Danish historical sound recordings on a web site), *IMPRIMATUR* (a consortium representing creators, publishers, producers, telecommunication companies, IT companies and users, concerning methods of buying and selling digital rights on networks) and *MAEMH* (Multimedia Access to European Musical Heritage).

IASA as the association competent in the field of sound and audiovisual documents should consider HARMONICA as an occasion where members can offer active co-operation to one or more of these projects for their own and the association's benefit. Those who are interested in more detailed information, please contact the Secretary-General by fax (+49 7221 92 2094). Moreover, the HARMONICA co-ordinator has promised to give a comprehensive presentation at the coming conference in Muscat - one more motive to attend our annual meeting in the Sultanate of Oman!

Readers with access to the Internet can find the HARMONICA pages at <http://www2.echo.lu/libraries/en/projects/harmonic.html>

and the overall programme "Telematics for Libraries" at <http://www2.echo.lu/libraries/en/libraries.html> [Ed.]

ARTICLES

Project: Digital Archives for Historical Sound Documents. On-line Databases for Information and Documents

Dr. Joachim-Felix Leonhard, translated by Andreas Rühl,

presented by Anke Leenings

at the IAML-IASA Conference in Perugia, 1996

DESCRIPTION OF THE PROJECT

Preliminary notes

New strategies of storage and dissemination are required in the future for the maintenance, indexing and - above all - the use of important, mainly unique cultural-historical sound documents, archived at the German Broadcasting Archives at the locations of Frankfurt / Main and Berlin. This new strategic thinking is not based, as before, on the idea of an "everlasting data carrier", but on the idea of an "everlasting data record". Compared to the preceding methods based on analogue technology and storage mediums, the novel approach will open up new possibilities. Staff of the German broadcasting archives are united in their agreement with the considerations of the study group *Sicherung der Archivbestände* (maintenance of archive materials).

In addition there is a process of replacing analogue systems and sound carriers by digital audio technology. Digital storage media, such as the pre-recorded compact disc and the digital audio magnetic tape (R-DAT), have growing influence on the consumer and entertainment market and tend to dominate. This trend obviously applies to professional acoustic engineering as well. So the time for the phasing out of analogue systems has come closer. German broadcasting archives, as well as the archives of all other broadcasting stations, are now in this phase of reorientation and rearrangement.

The historical sound documents of the German Broadcasting Archives in Frankfurt and Berlin must be preserved and secured commensurate with technological development in order to maintain their usefulness not only because of their high cultural and historical value, but also on account of the institution's statute and task. Further employment of analogue storage technology will be no solution for the future and could mean the loss of the recordings. The employment of a digital storage system will furthermore allow a faster and more flexible programming at the broadcasting stations and will support a "programme-dependent data flow" - for written information and sound. This certainly does not suggest the use of consumer or domestic audio

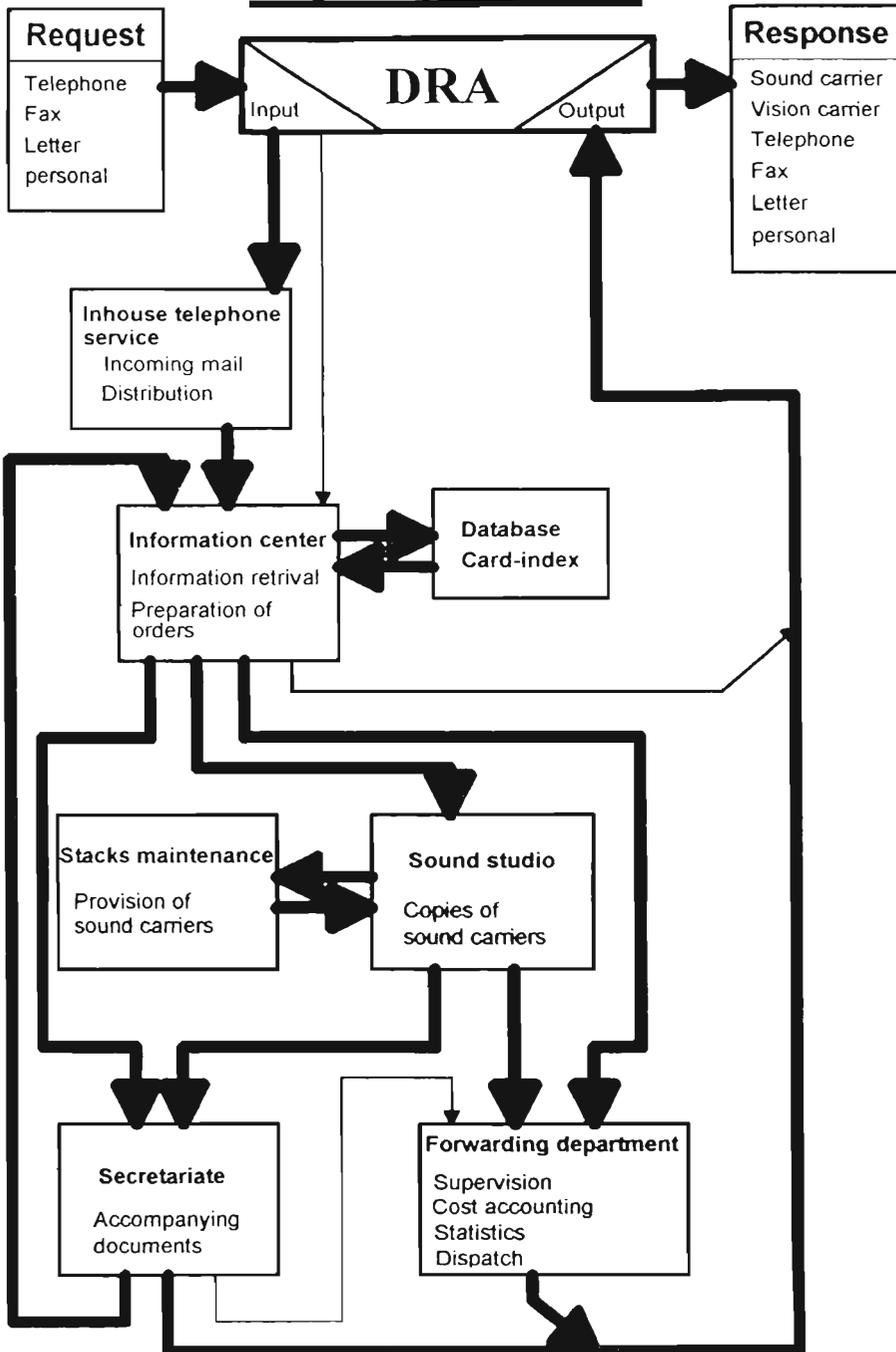
components, but requires a digital *storage and transfer system* for the professional user.

Digital technology will have an important function as regards the various services of the German Broadcasting Archives. At present the institution provides the broadcasting stations of the ARD with printed catalogues, which refer to foreseeable events and can be used for programming, and sound documents. These previews are aimed at the intensive and convenient use of the German Broadcasting Archives. The dissemination of the corresponding sound documents in digital, retrievable form would simplify the management of the service, improve quality and accelerate delivery. Frequently requested documents (edited talks, O-tones etc.) would not have to be copied repeatedly by sound engineers. Finally the working methods would be improved and made more efficient.

Through the time saving obtained from the use of mass store systems in the phase of transfer, new possibilities open up for refurbishing the historical archive material (or normalising the older archival documents). Without doubt this new technology combines organisational and economic advantages for the preservation of cultural-historical material and its use in programming.

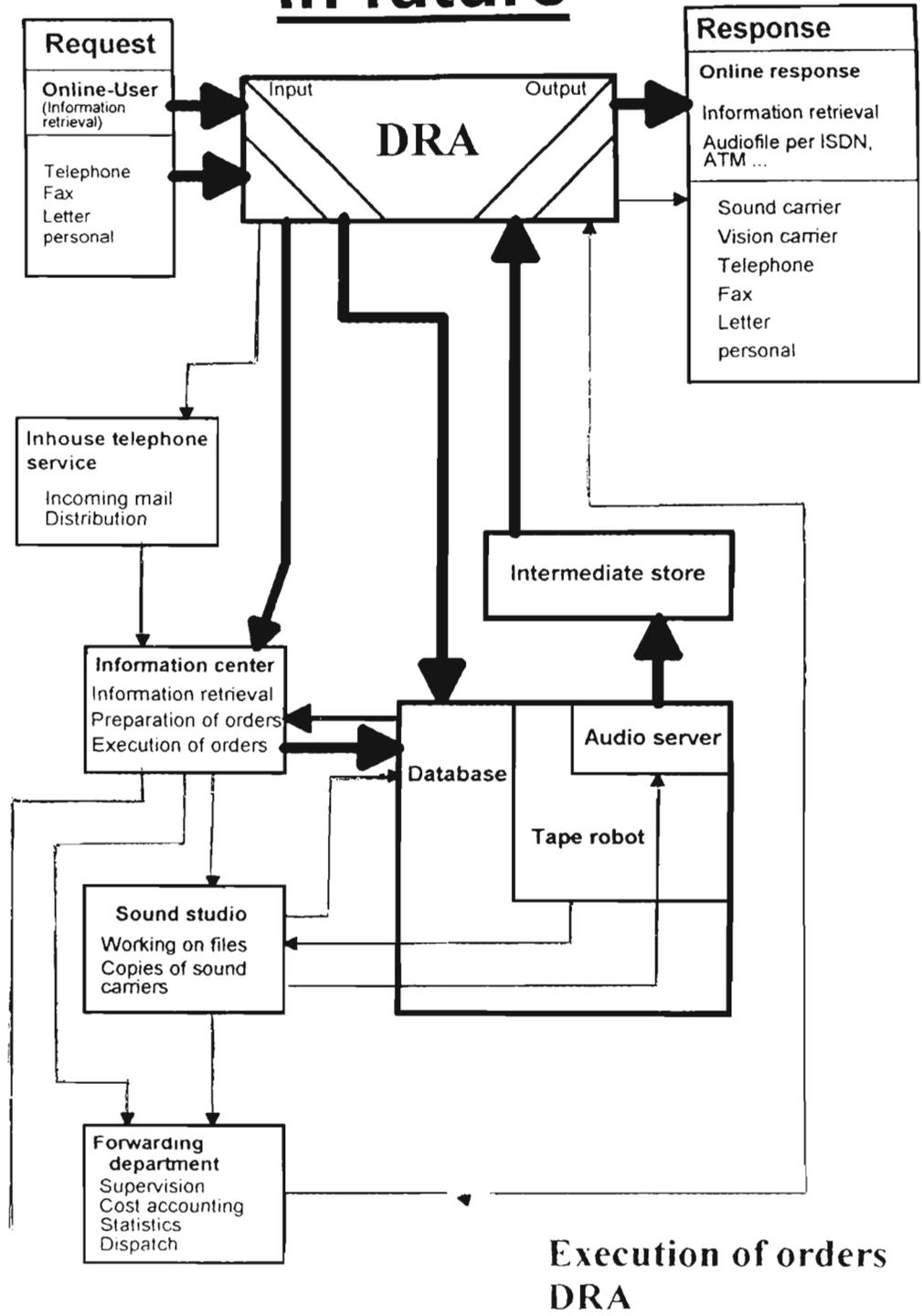
The two diagrams which follow compare today's conventional methods with those that are planned and demonstrate the less complicated, faster and more efficient processing and dissemination in the digital concept.

Up to now



Execution of orders DRA

In future



DESCRIPTION OF THE SYSTEM

General remarks

The digital archives for historical sound documents of the German Broadcasting Archives will initially consist of an audio server with an integrated array of hard disks, a network for audio and text data and work stations for users, archivists and sound engineers. This forms a configuration, which is a functioning storage system as a whole. The capacity of the tape storage system will not be filled in this early phase, but storage will be managed by a tape robot in the second phase. In the beginning the automation of storage overflow will be placed back.

With the exception of the audio data, which already exist in a compressed form, the whole digital storage system operates exclusively on **linear digital audio data**. The principle of linear storage is approved by the ARD-study group's *Maintenance of archive materials*. Furthermore the storage system must have the ability to operate on definitions of 16, 20 and 24 bit. In order to avoid the overloading of the network in the case of large packs of data (e.g. complete recordings of operas, speeches, radio dramas), the management of the audio data is executed in the non-destructive mode on the hard disks of the audio server. This process is managed at the installed workstations.

Data bank

The database of the ZWM-data bank is stored on the host main frame server of the Hessischer Rundfunk (Hessian Broadcasting Station). This data bank will remain the central information system of the German Broadcasting Archives and will develop an audio data management system in connection with the digital archives.

Audio server

As part of the data management system the audio server organises the transfer of audio data. This includes memory control for the hard disc array and magnetic tapes. The hard disks in the array serve as intermediate stores for the whole configuration. In the beginning they will each have a capacity of 40 gigabytes (equivalent to 40 hours of stereo sound at 24-bit definition). The management of the array data will only be partly automated in the first phase.

Equipment at the workstations

The workstations for users consist of a PC which is equipped with special hardware and which enable it to be linked to the network. The network is connected with the Host and the audioserver. The possibility of information retrieval - records about sound documents - is offered, combined with the retrieval of audio files from the mass storage system which can be listened to at the workstation. The software must indicate the time-code of the audio file, especially the data of chosen index points and find these within the audio file (by selecting a time-code-value) in order to make the audio information really audible.

The workstations for cataloguers and archivists are similarly equipped but also offer the possibility to update data on the system. Likewise the workstations for sound engineers though these also contain hardware and software for working with audio files.

For the purpose of executing on-line-orders for sound documents from the programme exchange it will be possible to transfer audio files to an intermediate store from this workstation in the second phase.

Analogue audio programmes are changed by analogue/digital transformers to digital audio signals. In the reverse case, digital audio data can be converted by digital/analogue transformers to analogue signals which can be recorded by traditional sound recording equipment. Naturally, digital audio data can be interfaced (by AES/EBU, for example) and stored directly by digital storage systems.

Overall file management is organised by the audio monitor (e.g. SADiE), which assists the adjustment of the sampling rate (44.1 or 48 kHz linear) and the definition (16, 20 or 24 bit): sound editing, filtering, level adjustment, timing and PQ-editing can be done in a similar way without modifying the original signal (non-destructive mode). The processing is executed with the help of the audio server array.

Network

The network connects the specified workstations with the database and the audio server. Audio and text data are transferred on that path. The exchange of data in the net is adjusted, so that all connected workstations may use the database and the audio server. Since the philosophy of the system assumes a real-time data processing (see *General remarks* above) access is only possible on the audio files of the array. Audio files, which are stored on tape, must first be loaded on the hard disks.

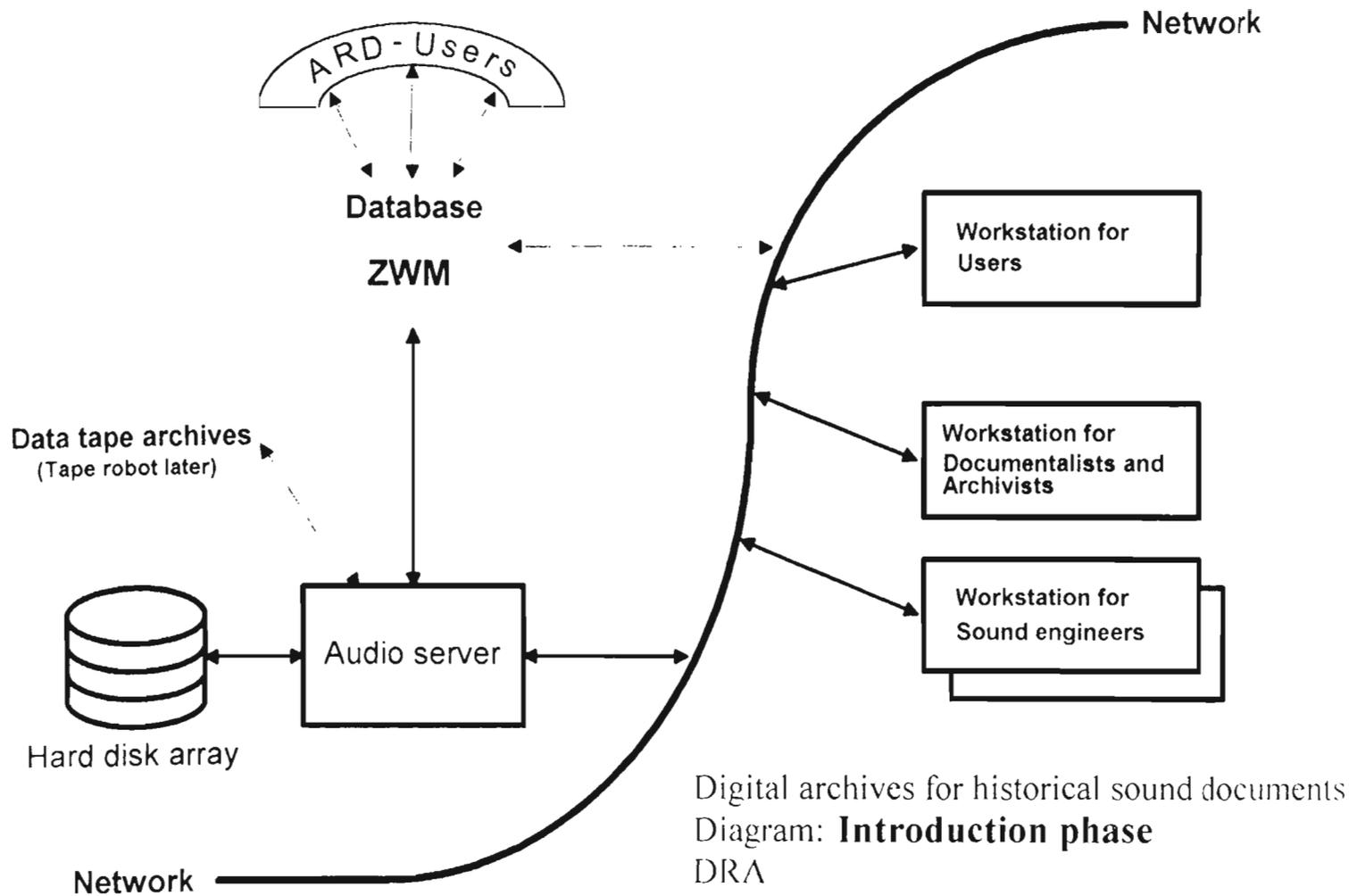
Two phases of realisation - introductory and expansion

The system's functionality must be complete from the beginning because only the interplay of all components will put the digital archives into operation. A partial installation would not work because all modules are interdependent. However, a minimal configuration is possible and this is our aim. This includes the memory sizes of the tape storage system and the hard disks, the number and configuration of the workstations for users, documentalists and sound engineers as well as the configuration of the audio server.

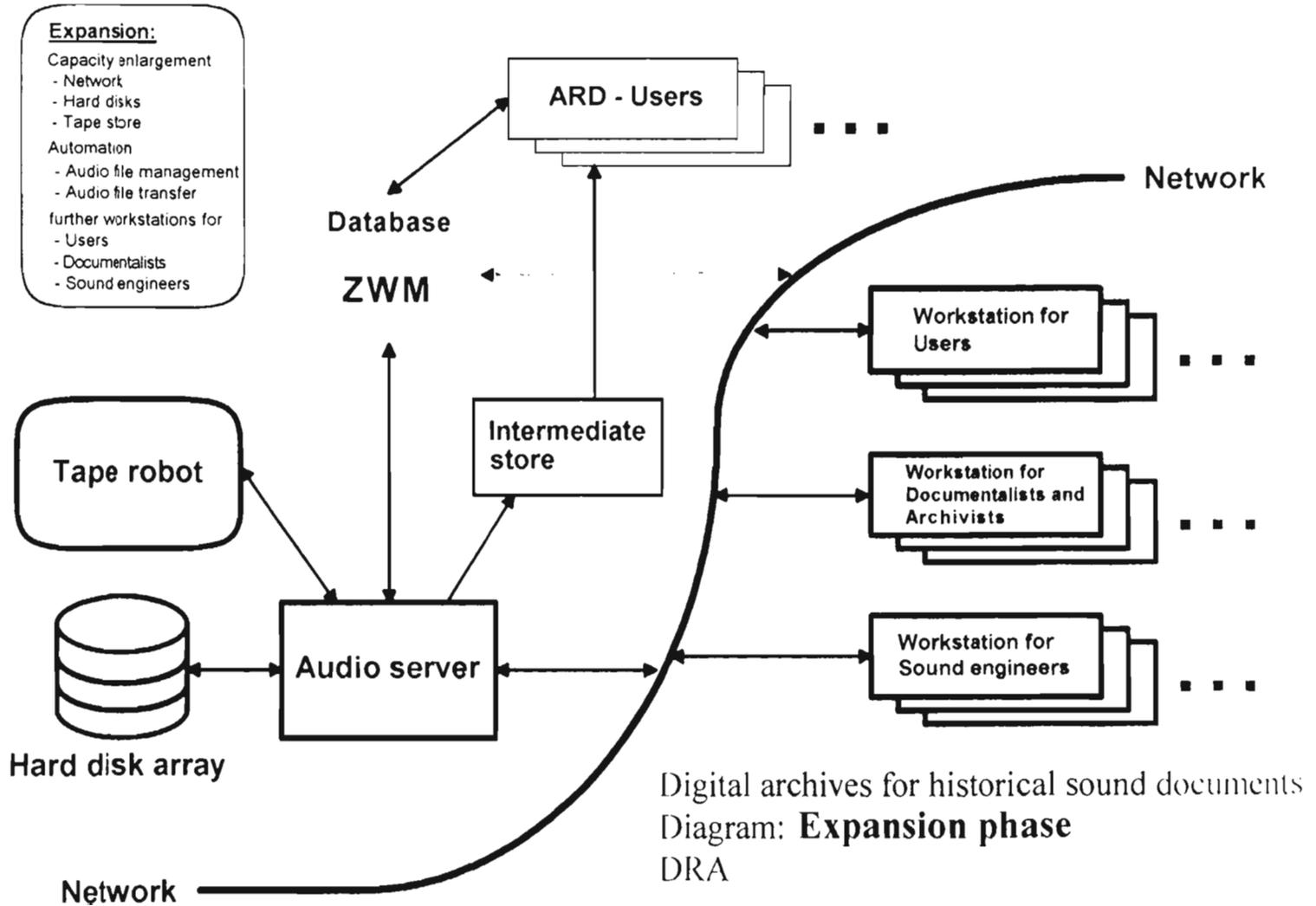
In the **introductory phase**, i.e. the first phase of realisation described above - the installation of a network, connected with the hard- and software components of the host, is planned for the whole archival storage system. The necessary hardware consists of an intermediate technology audio server including the hard disks, two workstations for sound engineers and a further workstation for documentalists and users respectively. The software requirement is met by the network management system of the audio server and the operating systems of the different workstations.

The **expansion phase** refers to the capacity enlargement of network, hard disks and the tape storage system as well as the installation of further workstations for users, documentalists and sound engineers, the automation of the audio file management system and the data transfer of audio files to users of the ARD with the help of an intermediate store.

Schematically the two phases can be demonstrated as follows:



Digital archives for historical sound documents
 Diagram: **Introduction phase**
 DRA



Reasons for the introduction of a digital storage system for historical sound documents in the German Broadcasting Archives

Availability

The requirements of a fast on-line information service and transfer of materials are met by future audio systems in a special way: this can be exemplified in the context of our existing data bank (ZWM), which contains information about music and spoken word recordings and which is used as an on-line database by the broadcasting stations of the ARD. This information system will help to optimise ordering and dissemination. In view of the given possibilities determined by the system, digital audiofiles would be an ideal addition to the already existing on-line information systems of the German Broadcasting Archives. This applies initially to the more efficient management of in-house orders. Workstations in the editorial sections, the sound studios, the administration and the archives of the broadcasting stations will be able to use the audio storage system of the German Broadcasting Archives in a second phase.

Functionality

Digital technology offers essential advantages compared to analogue technology. These include facilitated copying, cutting and other functions, the possibility of index selection in order to find specific points quickly, high speed of transfer and working methods, the possibility to listen to and work on sound documents at specially equipped working places and to further use the documents.

Data security

A special quality of digital systems consists in the ability to copy and to transfer digital contents practically loss-free so that we now have the prospect of "everlasting data records" as opposed to records which degrade as a result of the gradual loss of information each time a new generation copy was produced in the analogue mode.

Integration of other archive media

The concept of digital audio files is open and can be expanded to accommodate the management and dissemination of other archive media such as pictures, video or text files. Since the German Broadcasting Archives store not only audio material but also various types of other archivalia, the change from analogue to digital technology should be executed in regard of a possible later expansion of digital technology. An

extended integrated service could be offered to users whereby documents of different kinds are brought together under multimedia concepts.

Comparative costs

The immediate employment of digital technology in the German Broadcasting Archives will lead to a medium- and long-term reduction of costs. The continued use of conservative and obsolescent analogue technology will result in escalating costs, as follows:

maintenance of archive material and the provision of sound documents:

Further use of analogue systems means higher expenditure on collection development and maintenance. These higher costs are caused by the demands on time, material, space and working hours, which is necessary for the copying and storage of analogue carriers. By comparison the automatic data security and the on-line transfer of sound documents in the digital system is cost-saving in every respect.

equipment:

The growing exclusivity of analogue equipment buying and service makes this the more expensive and difficult option. Digital technology will be supported by producers and developers.

reduction of floor space:

Today software producers are having more and more success with developing and improving data compression systems. The German Broadcasting Archives now disposes of 1,000 sq. m. floor space and 250,000 hours of audio materials on analogue carriers - digital systems would contribute to a middle-term solution to space problems. This will have a bearing on costs.

comparison of costs:

The number of copy orders for the programme exchange has increased steadily during recent years. As a result of the growth of stock and the improved possibilities of information at the ARD-broadcasting stations, this trend will continue. The further use of analogue technology in dealing with orders would lead to an extension of manpower requirements, because there is no possibility of further rationalisation with regard to the execution of orders. Rationalisation can be expected after the installation of digital storage technology, because the growing numbers of copy orders can be met

by an intensified use of the on-line system. An intensification of work (making analogue copies, mailing, storage etc.) will not be necessary. Because of that, growing staff requirements can be prevented. Direct savings are possible in the fields of materials and space.

The listed calculations are based on the following book values for analogue or digital storage respectively:

- Book value for analogue storage: material: studio sound tape LGR 50, 1,000 m; tape speed: 19.05 cm/sec; price: ca DM 43.- (without VAT)
- Book value for digital storage: material: Comparex 3480 standard cassette 1.8 GB (compressed tape); definition/sampling: 16 bit / 48 kHz; price: ca DM 9.- (without VAT)

The cost factors "space" and "materials", for example, demonstrate the expenditure and the resulting savings at today's prices:

Cost factor	analogue	digital	Savings
Space required	ca 1000 sq. m	ca 150 sq. m (1.8 GB-Cass.)	85%
Costs of material per hour of programme supply	ca DM 30.- (mono or stereo)	ca DM 2.- (mono) or ca DM 4.- (stereo) for 1.8 GB-Cass.)	93% 87%

It should be taken into consideration, that streamer tape cassettes with larger capacities are available now - the 10 GB tape cassette or the 96 GB cassette by Sony for example - so that the required space will be cut down by one fifth and further savings will be in the order of 50%.

Digital media in the BBC

Sally Hine, BBC Sound Archives, London

Paper delivered at the Open Meeting of the IASA Radio Sound Archives Committee,
IAML-IASA Joint Annual Conference, Perugia, 1996

DAT

A significant proportion of BBC Radio programmes is now broadcast on DAT. Where this is the format delivered to the Sound Library, we keep it on this format for the time being although we are dubious about the long term storage of sound on DAT.

The BBC also has a large number of “off-line” recordings on DAT. There is a computer controlled bank of DAT machines which records for us all the Radio Sequences such as the *Today* programme and *The World Tonight*, as well as key News Bulletins every day of the year. The technology has meant that we are able to do recordings ourselves of many more programmes, and in high quality. Again we must think of the long term implications of DAT. For this type of material i.e. Sequences and Bulletins the storage is ideal despite the fact that it is such a small product. It is only necessary to label the DAT with, for example, “TODAY 22Aug1996”, or “18.0022 Aug1996.”

However, for our general Archive stock, the storage of DATs can cause problems. They are too small to live on a shelf on their own and too small to be able to contain effectively a recording report or some catalogue information. We have therefore devised a box for the storage of our DATs.

CDRs

Our most successful venture with digital media has been with CDRs. Since 1990/1991 we have been compiling excerpts from programmes onto CDRs. This function was done previously onto vinyl LPs. The advantages are obvious. An LP only allowed about 30 minutes of sound to be included whereas we use both 63 minute and 74 minute CDRs. Instead of needing to have the vinyl LPs pressed at a record company (in our case Nimbus) we make the CDs ourselves in house. We therefore have control of when we can release the CDs - for example a CD of Nelson Mandela’s inauguration was available for loan to our customers within four weeks of the event and the British General Election results of 1992 were on the shelves within two weeks. We also do all the artwork for the covers ourselves so as a library we feel totally in control of our

own product. Also there is more room on the back of a CDR to put cataloguing information.

You will already be aware of the technical advantages of CDR so I will not repeat them here, save to emphasise that for a library operation such as ours the medium is perfect. They are much more difficult to damage than a vinyl disc. Production staff, our customers, love them. We occasionally get a customer who says "I only want this recording if it is on a CD!" For popular compilations we make five copies, but for less popular items, such as an omnibus edition of *The Archers* (a daily radio soap opera) we would only make one shelf copy. This is saving us some money as the LPs had to be produced in runs of twenty-five, partly because of production runs at the record company and partly because of the wear and tear on the lending copies.

As for master copies, we are hedging our bets. Each CD has a DAT and an analogue tape master which are both kept in sequence in a safe Master Store. There are two CD making facilities at our store in Brookmans Park (shortly to move to Brentford in Middlesex), the original digital editor RM-D 7300 and a Studer D740 CDR maker in one studio and a Sadie and a Yamaha CDR maker in the other. The Archive Technical Assistants edit the material onto a DAT first and then the Selector listens to that DAT before the CD is cut. We use blank CDRs - they are marketed by a number of suppliers but they don't necessarily make them. There are indeed few manufacturers and the discs tend to be made in the Far East and in Mexico. The manufacturers that we know of are:- Kodac, Taiyo Yuden, Mitsui Toastu, Ricoh, TDK and Mitsubishi. The 74 minute unbranded discs that we have been buying recently have been made by Taiyo Yuden and cost £5.53 each. The last 63 minute discs we bought were from MAXELL and are about the same price. MAXELL were using MITSUI discs but are apparently beginning to make their own.

The Archive Technical Assistants edit the material onto a DAT first and then the Selector listens to that DAT before the CD is cut. We use blank CDRs - manufactured by Maxell - we have tried some different brands but have found them less successful and reliable.

There are now 8759 items available on approximately 500 discs. The BBC Sound Archive has been revolutionised!!

Sound effects

Our other experience with CD digital technology is with sound effects. We now produce for internal BBC use only 120 CDs of specially recorded sound effects for use mainly in BBC Drama productions. Although the Sound Archive is responsible for the compilation of the edited DAT tape (I actually commission technicians to produce the sounds, either from inside the BBC or from outside) the treatment from there onwards has to be somewhat different. As well as lending out copies of particular discs, we also sell them to studios and dubbing theatres. in the "internal market" climate that now exists in the BBC. We therefore have to produce 300 copies at a time which would be impossible for us to do with CDRs and so we send the edited DAT and the artwork to Nimbus who process a mini commercial run for us.

The future

There is a project, a very big project, in hand to create a *New Sound Archive*. This is all part of a push to digitise the BBC's programme archives for radio and television. There is a general thought that eventually the Archive will be stored somewhere digitally (maybe in a high density robotic tape store) and customers will be able to access the recordings themselves at a digital work station, edit that material and then broadcast it. This at present is a very ambitious and expensive idea and no-one wants to put any money into it. However we need to be ready for this revolution when it comes and so we are at the moment considering various options which can be arranged into two groups:

1. preservation

- transfer all the compilation LPs to CDR;
- transfer DATs to CDR;
- transfer audio cassettes to CDR;
- transfer some of our poorly transferred material on quarter-inch tape to CDR.

We are investigating the costs of such options, e.g. 12,000 LPs, and we have had help in this from INA in Paris.

2. digitising for eventual remote access

There are eight options which go from one end of the scale - improving and enhancing our catalogues, digitising 10% of future intake and none of the existing Archive - to the other - digitising 100% of future intake plus 100% of the existing Archive. The higher the option number, the higher the cost.

Pilots

In the meantime we are, as an experiment, going to digitise about 50 hours of Archive material and sound effects to be put into a server for a daily consumer affairs magazine programme called *You And Yours*. By this summer [i.e. 1996] the production team will be able to make their programme daily on their desk tops and then send it to a new digital studio to be broadcast. They will be able to look into our catalogue on their PCs for likely material and if they find something order it remotely and play it directly into their workstations for editing. A foretaste of the future?

Digitisation and its consequences for Radio Sound Archives: Finnish Broadcasting Company (YLE)

Lasse Vihonen, YLE, Helsinki

Paper delivered at the Open Meeting of the IASA Radio Sound Archives Committee,
IAML-IASA Joint Annual Conference, Perugia, 1996

First I would like to tell you about the situation concerning digitisation or CAR - Computer Aided Radio- in the Finnish Broadcasting Company, YLE. Two months ago our company started to use the first networked workstations for operational news broadcasting which also handle audiofiles. The pioneer in this respect is our Swedish language radio news. As you know, in Finland there is a Swedish speaking minority and our company has a national radio channel broadcasting in this language. The Swedish Radio News uses a newsroom system made by a French company called Dalet. The used bit rate reduction standard is MPEG layer 2.

Our Swedish news department does not at the moment archive the audiofiles into Dalet. They keep the news inserts in the Dalet's server for only two weeks after broadcasting. The archiving is solved so that they record the news broadcasts on DATs simultaneously with broadcasting. The recording system is totally independent of the Dalet-system. The leader of the Dalet project, Sixten Gustavsson, told me that they are currently investigating the possibility of transferring the audiofiles from the server to the different storage systems.

It is typical of our company - and maybe of broadcasting companies - that we have not only one, but many different CAR-systems. Our local radio station in the town Rovaniemi has just started to use their own CAR-system called Radio Man. Radio Man is developed by the Finnish company called Jutel.

Radio Man also includes audiofiles and is considered as a pilot project for other local radio stations in Finland. Radio Man differs from Dalet in the respect that they have also stored music onto server's hard disc (about 4000 pieces of music). They will change these items as needed, but the head of Rovaniemi radio station, Jorma Talvensaari, told me that it is possible that some "evergreens" will be permanently stored on the hard disc. But the audiofiles of local news and other programmes will be held in the system only for two weeks, like the Swedish news department. And the reason is the same - there is not enough space on the server's hard disc. Radio Man also uses MPEG layer 2 bit rate reduction standard. Mr Talvensaari said to me that they have at the moment no concrete plan as to how to store the audiofiles

permanently. One alternative is that they will use juke-boxes and CD-R's for archiving.

By the end of this year the Finnish news department will choose a new CAR-system. - I do not know what this will be yet, but I know that it will include audiofiles. And in the near future our pop music channel - Radio Mafia - and our cultural channel will establish projects to introduce a CAR system for them.

The development I have described will lead, in my opinion, to the obvious conclusion that in our company after some years we will have four or five different CAR systems and every system will include the radio programmes as audiofiles. Last but not least, the audiofiles will also reflect the different formats. I guess I am not the only radio archivist who will be in this situation in the near future.

And what will that mean? I try to be as realistic as possible. Nowadays the programme flows are so enormous that broadcasting companies neither have the need nor the money to archive all the programmes they transmit. And it is the same thing from our point of view. We can ask, do the radio archivists have enough time and other resources to select material properly? I have to answer honestly, I have not. And who has enough resources to copy the selected programmes from the CAR system on the traditional sound carrier like analogue tapes or DATs or CD-Rs? I have not. I think the only realistic way to archive programmes in the future is that the audiofiles will be transferred as automatically as possible from the CAR systems to the archive system. And the producers or the chief editors will be the persons who decide in practice which radio programmes will be kept for a limited time in the CAR-systems to the archive system. And the producers or the chief editors will be the persons who decide in practice which radio programmes will be kept for a limited time in the CAR-system and which are worth of permanent storing probably in the separate archive system.

What kind of archive system do we have in the digital future? I guess that after some years the broadcasting companies will mainly have mass storage systems based on the mainframe and back up streamer technology. IBM and Sony already have presented their systems. And why do I believe in that kind of development? As I told you earlier, we are probably facing the situation that we have in the same company three, four or even five different CAR systems and may be as many different file formats. For this reason the archive system has to be as open as possible. And the archive systems based on the mainframe and back up streamer technology offer today enough storage capacity and they are open for all kinds of data formats.

I think that the European Broadcasting Union (EBU) also shares this vision, because it has started a project in order to achieve a standard which helps to transfer audio files between CAR systems and thence to the archive systems. This EBU standard will probably recommend some audio file formats but the main point is that the users have to add some extra information to the audio files. And this extra information tells the systems, for example, the type of the audio file (is it linear or bit-reduced and so on) and also some broadcasting and copyright information.

But this draft has a weakness from our point of view: it does not include information specially concerning the storage time of the audiofiles. If we have the standard which includes a field for "the status information", it will help us to build automated archive systems. I would like to stress that many manufacturers have promised to follow the EBU standard when it has been approved. For example, I interviewed two weeks ago Antti Nevalainen who represents the Jutel Company and he confirmed that his company will follow the EBU standard. Jutel also co-operates with IBN which sells the archive systems. The EBU committee which is preparing this audio file standard, will meet on the 13th and 14th of September [1996] in Amsterdam.

The archives of Slovak Radio and digital technique

Dr Fero Horvat, Slovak Radio, Bratislava

In August 1997 we are planning to re-record all our archival collections onto CDs. This will be a specialised and time demanding task since a great number of our recordings are of indifferent quality, especially the older ones. In spite of the war and the resulting political disruption, we are fortunate to have a large collection of audio recordings dating from the 1930s and 1940s. Some of the data is missing, which will make it necessary to identify, for example, the exact title of the event, where it happened, the date and so on. It will then be possible to complete a definitive index. The substitution of analogue media for digital media, in our archives will also then be used for the retrospective cataloguing of audio collections. In addition, we will make a copy of each CD, which will be deposited in a separate secure place, in case of accidental fire for example. Because of the poor technical quality of some of the recordings, it will be necessary to restore them. This restoration will be done in two of the following ways.

1. The audio collections, which are not damaged mechanically, but whose quality is reduced by background noise, will be restored by means of a digital hardware technical device. This restoration process will be easier since the above mentioned equipment works in real time.

2. Restoring and conserving old audio recordings, however, will be much more difficult. The problem is that the material, on which the old audio recordings are recorded, also contains different organic components and so the low quality of the recordings is not only caused by mechanical damage but also by chemical and biological corrosion - for example: Shellac foils, C-type audio broadcast tapes. We will restore these recordings by means of our own digital hardware software equipment, Sonic Solution. This is actually a sound editing machine with the software Version 2.2. To make this system more efficient, we have also its hardware-software part called No Noise at our disposal. At present, the above mentioned equipment is being tested and we are learning how to work with it. We are lucky because we cooperate with the Experimental Studio of Slovak Radio where experienced experts, sound engineers work. In compliance with the degree of damage on the audio recording we will focus on three stages of the restoration process. They are:

- a. removing noise
- b. removing clicking
- c. removing crackling

According to our first experiences of digital restoration work, it requires not only special knowledge but also much time. However, some tests should be done on recordings before we begin with their restoration work. For example, some tests have been done on the *Sonata for Eleven Musical Instruments* written by Slovak composer Alexander Albrecht, conducted by Vaclav Talich and performed by the Slovak Philharmonic, which took more than a work shift to complete. Some 20 extracts, one sample was 15 seconds long, have been taken out of the Sonata. Each sample has been tested and the best of all have been chosen. However, it is not possible to proceed with the tests in a routine way because each recording has its own peculiarities. While the Sonata's real time was 20 minutes, the background restoration work of the computer on this mono recording took 13 hours. If the above mentioned recording was in stereo, the length of background time would be doubled.

Restoring of old audio collections, which are recorded on Shellac foils, will be actually a time demanding work. Why? Because the capacity of the Shellac foil is limited, and a long speech or musical recording is recorded on several foils. Influenced by time each recording is harmed in a different way, the quality of the foils is different and so are their characteristics. That's why each side of the foil must undergo a special test, which should be done before the restoration process begins. These tests make the restoration process of audio recordings very long.

This year the archives of Slovak Radio have entered a digital era. However, the further development of digital archival work depends on the financial resources of Slovak Radio.

[This paper was not presented at the open session of the Radio Sound Archives Committee at the Perugia Conference but was tabled for information. Ed.]

Equalisation of BBC disc recordings

Peter Copeland Technical Manager, British Library National Sound Archive

1. Introduction

This article is a spin-off from a series of articles I have written for general record-collectors (Ref. 1). As general record-collectors should not have access to BBC internal recordings, I write this for IASA members who might legitimately have such material.

The BBC did not always follow international or *de facto* standards with its discs. This article summarises the electrical characteristics of such discs so they may be reproduced correctly. There is some urgency for this, because the BBC sometimes gave performers a cellulose nitrate disc instead of a fee, and such "nitrates" have a limited shelf-life.

As you might expect from a large and cumbersome organization like the BBC, there were several changes of disc-recording policy over the years, but hardly ever any clean breaks between those changes. There were long periods of stability, so for 90 percent of BBC discs I can refer you to the summary in Section 15 at the end of this article. But the other ten percent are in "grey areas," sometimes with very unexpected characteristics. I must recommend you to become familiar with the BBC's disc-recording history (Ref. 2) to assess what technique was used for the particular disc you hold in your hand.

From about 1955 onwards, the BBC tended to copy its older formats onto new media. The most important examples concern Philips-Miller film recordings, copied to microgroove LPs; but as the original films have now been destroyed, we must use the LP discs. Other items were copied from 78rpm and 60rpm discs, but there is evidence that occasionally engineers of the time did not get the equalization right, or else they were copied before international standards were adopted. Ideally, you should have access to the "originals," whatever they may be; but if you haven't, I can only ask you to be aware of the evolution of BBC practices, so you may detect when an equalization error has been committed, and reverse-engineer it.

I have been doing industrial archaeological research to establish what was going on. There are three basic sources of information:

- (1) surviving engineering test discs;
- (2) analyses of circuitry and hardware in contemporary engineering manuals;
- (3) spectral comparisons of the same sounds recorded by different equipment.

I will try and indicate when one system gave way to another as accurately as I can; but the dates and matrix-numbers will often be approximate. The numbering-systems, for both the matrixes of pressed discs and for "current library" nitrates, should be understood for this reason. They will be considered in sections 5 and 6 below. After this we shall study the various phases of disc-recording history with consistent equalisation.

2. The subject matter of this article

This article covers all disc records mastered inside the BBC. The range includes:

1. pressings and nitrates for the BBC Archives, also known as the *BBC Permanent Library*;
2. pressings for the BBC Transcription Service for use by broadcasters overseas, additional copies of which were sometimes pressed for (1) above;
3. pressings for the BBC Sound Effects Library;
4. records whose logo, printed in green, consisted of the words "Incidental Music" (signature-tunes and the like, mass-produced for internal consumption);
5. nitrates cut for immediate use, administered by the BBC Current Library or one of its branches. These have a lick-and-paste label with a space for a hand-written "R.P Ref. No." This means Recorded Programme Reference Number. Such a number has a distinct structure incorporating the code for the branch library concerned, and enables them to be distinguished from the other libraries.

The BBC also made records for other organizations with yet more logos. Among these I can name the London Transcription Service and The Joint Broadcasting Committee (both wartime precursors of the BBC Transcription Service), the Forces Broadcasting Service, and A Commonwealth Feature Programme.

3. Principles of disc equalisation

Here I am embarrassed by not knowing the level of technical knowledge of my readers. It is all spelt out in Reference 1, but here a brief summary will suffice.

There are two ways to modulate a grooved disc with a flat frequency response, known as the "constant velocity" method and the "constant amplitude" method. The former is best-suited to acoustic reproduction, so was dominant for commercial recording between the 1920s and the early 1950s. The latter gives very much less surface-noise, but electrical reproduction is essential to give the correct frequency-response using equalisation circuitry. In practice both methods were used in combination, and when international standards were fixed in 1955 the middle of the range was constant-velocity so clockwork gramophones continued to give acceptable results, while the bass and treble frequencies were constant-amplitude to allow recordings to be louder without throwing the stylus out of the groove and to drown surface-noise.

Most commercial records changed from one domain to the other at specified frequencies. It is therefore possible to define most equalisation curves by quoting such changeover frequencies, but engineers prefer an alternative method. Instead of quoting frequencies, they use "microseconds," because this enables them to design an actual circuit in ohms and microfarads. I shall use both methods in this paper.

4. Pre-history of BBC disc recording

The earliest problem is simply to recognize which discs were manufactured on BBC equipment. Before the BBC got its first disc cutting machines in April 1934, and for some years after that, much BBC recording was carried out by commercial record companies, mainly E.M.I and British Homophone. The former can be recognized by matrix-numbers prefixed 0BBC or 0BBCR (ten-inch) or 2BBC or 2BBCR (twelve-inch). These were mastered using equipment designed by Alan Blumlein (who is now remembered for his pioneer work into stereo). It had a single turnover at about 300Hz (531 microseconds), with constant-amplitude below that and constant-velocity above.

The British Homophone records have a much finer groove-pitch (actually 150 lines per inch). They usually have plain matrix numbers in the shellac, but the prefix "Homo" is added on the label. Subsequent industrial archaeology shows this to have been a "rogue" system with constant-amplitude throughout most of the musical range, terminating with a massive resonance at 2 kilohertz. (Ref.1, section 15).

Anything you find with a matrix-prefix plain "BBC" and the words "Record manufactured for the BBC by the Decca Record Co. Ltd." is from a nitrate cut by the

BBC, not a Decca master. We shall see later that "Blumlein 300Hz" (531 microseconds) is correct.

When the labels carry the words "Record manufactured for the BBC by the Gramophone Co. Ltd," a pure "BBC" prefix still means a BBC master-disc; but when they have matrix prefixes 0BBCD or 2BBCD, these may be *either* Gramophone Co. *or* BBC masters. As both organizations used similar characteristics, again it will be sufficient if I say "Blumlein 300Hz" (531 microseconds).

5. BBC matrix numbers

Any disc which was processed (that is, made into a metal master so copies could be pressed) was given a matrix number, which appeared on stampers and on finished pressings because metal cannot have a written label. The first BBC-mastered matrixes had the prefix "BBC", often hand-scribed onto a "current library" nitrate after it was finished with. Number BBC1 was a ten-inch pressing made for the BBC Sound Archive (their catalogue number 588).

When the BBC became responsible for the engineering work associated with overseas radio stations during the war, the matrixes had different prefixes to indicate the size and the pressing-company. (These records were the foundation of the BBC Transcription Service).

In September 1942 the two operations were amalgamated. With true British-style compromise, the prefixes were adopted from the Transcription Service, and the number suffixes from domestic radio, which had by then reached about 8000. An extra letter was added to determine which was which, and the following prefix code evolved:

first,	16 = 16 inch diameter 12 = 12 inches 10 = 10 inches 7 = 7 inches
second, if there at all:	F = fine-groove
third,	P = Transcription Service Processed Disc R = Recorded Services (i.e. domestic radio or TV)
fourth, the company which did the galvanic and pressing work, thus:	D = Decca, Raynes Park H = British Homophone Company M = E.M.J Ltd., Hayes O = Oriole Ltd. (later CBS) P = PR Records, Wimbledon R = The Transcription Manufacturing and Recording Co. (C. H. Rumble), Redhill.

RR = Rediffusion, Caerphilly

S = Statetune, Leicester

W = Nimbus Records, Wyastone Leys, Monmouthshire

fifth, matrix number, and if not "Take 1", a take-number. The take-number indicates the attempts at cutting a master-disc, not different performances. The numbers formed an essentially continuous sequence, the world's largest run of matrix numbers, ending at 162695 in 1991.

sixth,

S = stereo (confined to the early days of stereo only).

For example: 16PH meant 16-inch (implied coarsegroove) disc processed by British Homophone from a Transcription Service master, and 7FRO meant 7-inch finegroove processed by Oriole from a domestic master.

6. BBC Current Library numbers

Apart from Broadcasting House in London, a large number of regional centres and overseas studios made disc recordings. There were literally hundreds of these at various times; the following is only a selection. To save constant communication and delays, they allocated their own serial numbers to form Current Library recordings. The actual numbers were originally restricted to five digits, which were thought to be enough for a current library where recordings were not kept permanently; but by 1963 Bush House had been "round the clock" several times. Duplicate-numbered recordings were liable to appear unexpectedly, so six digits became the norm. The serial numbers were prefixed by three or four letters as follows:

First letter (if there at all) :

C = a copy from another recording, whose identity was supposed to be indicated in the box marked "Source" on the label.

P = Master nitrate disc intended for processing, or a backup for same.

Second letter : Format (I shall only cover disc media here) :

D = 78rpm coarse-groove nitrate disc, or a set of such discs

F = Fine-groove nitrate disc

M = Mobile recording (usually cut on a disc-cutter in a van or car)

S = Slow-speed (33rpm) coarse-groove nitrate disc, or a set of such discs.

Third and fourth letters : Studio centre allocating the number.

AB = Aberdeen

AH = Aldenham House, Hertfordshire

AM = America (usually the New York studio)

AP = Alexandra Palace

BE = Belfast

BG = Bangor, North Wales

BM = Birmingham

BS = Bristol

BT = Beirut, Lebanon

BU = Bush House, London

CF = Cardiff

EH = Edinburgh

GW = Glasgow

GY = Germany

LG = Lime Grove

LN and LO = Broadcasting House, London, and buildings nearby

LS = Leeds

MR = Manchester

NC = Newcastle

OX = 200 Oxford Street, London

PY = Plymouth

RW = Radiophonic Workshop, Maida Vale, London

SM = Southampton

SW = Swansea

WN = Wood Norton, near Evesham

These location-codes would usually give the location of the disc-cutting machine, not of the performance; the latter would be indicated in the "Source" box on the label. Thus, DBU123456 would be an original 78rpm coarse-groove nitrate cut at Bush House, and PSOX12345 would (nowadays) be a surviving backup disc for a master nitrate "slow speed disc" (33rpm coarse-groove, usually 44cm-diameter), the original of which was sent off many years ago to be made into shellac pressings, cut at 200 Oxford Street London.

In the following sections, I will list the equalisation histories in approximately chronological order. For processed recordings (as opposed to nitrates), I have attempted to give the matrix numbers relevant to each recording system and characteristic. I shall not bother with matrix prefixes, because there were always several in use at once.

7. M.S.S. Recordings

This section is concerned with recordings mastered upon the early Marguerite Sound Studios (later MSS) equipment between 1935 and 1951. (Ref. 3). The cutting heads were hired to the BBC by its inventor Cecil Watts, because he was not happy with their performance and wished to update them immediately. Two frequency test-discs of the period survive, enabling us to measure the actual performance today. Number XTR.22 comprises a gliding-tone interspersed with fixed tones. The result is pure "Blumlein 300Hz" from 30Hz to 2kHz, but above that there is a broad peak averaging +3dB from 3kHz to 7kHz, falling to zero at 8kHz, the highest recorded frequency. This disc does not carry any matrix number, so it is difficult to date. But it is a centre-start disc (the tone glides *upwards*). Centre-start was abandoned on 27th April 1937, so it is earlier than that, and definitely within Watts' experimental period.

The other is a British Homophone ten-inch test-pressing, almost certainly made to see how British Homophone coped with electroplating nitrate lacquer rather than wax. It has the matrix-number BBC210, which would date it to the end of 1935; it carries fixed-frequency tones only. It is pure "Blumlein 300Hz" all the way from 4kHz downwards, although 5kHz is -4dB and 6kHz is -5.5dB. This may partly be due to the low recorded diameter.

Although individual cutters and cutterheads may not have given results quite like these specimens, the basic equalization characteristic is quite unambiguous - "Blumlein 300Hz."

8. American equipment

From 1942 to 1945 the BBC imported large numbers of Presto disc-cutters. These would have had a classical "Blumlein shape" until the BBC replaced the original cutterheads in about 1948. Test-disc DOM46-2 is thought to date from this period; it carries professional announcements, so was certainly intended for everyday calibration of reproducing equipment, and it therefore shows the *intended* curve precisely. It is absolutely correct "Blumlein 300Hz" up to 10kHz. This assertion is also confirmed by some early coarse-groove 33s, which we shall consider below.

9. BBC transportable equipment

The BBC's Type A Cutterhead was used on its Type C transportable disc recorders from 1945 to 1961, and Reference 1 shows it recorded Blumlein 300Hz characteristics. Nitrates for immediate transmission cut on these machines generally

have an R.P. Ref. No. beginning with M; they are nominally 78rpm, batteries permitting!

The BBC also had portable disc recorders based on clockwork gramophones for its reporters on location during the war. They had piezo-electric cutterheads whose performance has not yet been analyzed, although at least one machine survives. However, it seems that most of the discs cut on such equipment were dubbed. (Or worse, sent by a short-wave radio link, for example). The clockwork motor could only provide enough torque for a ten-inch disc, and that with a relatively shallow groove. As far as I know, very few such recordings were made into pressings for these reasons, although I believe some appeared in the BBC Sound-Effects catalogue.

10. Coarse-groove 33rpm discs

We have no definite evidence whether the same characteristic was used for long-playing coarse-groove 33rpm records, which became practicable when the BBC started making its own sapphire cutters in 1941. The documentation for the various recording-machines does not mention the subject, so one would expect "Blumlein 300Hz" to be valid for these as well. There are a few scraps of evidence to support this claim, but the evidence is not complete.

A rather curious frequency-run appears on the back of some single-sided 16-inch 33rpm BBC Archives pressings (for example X.19910 or X.20865). Presumably it was just a suitable stamper which could be used for a blank side. It was definitely recorded on a machine with a manual hand-wound scrolling mechanism (the Presto would qualify). It starts at a diameter of thirteen inches. It too is "Blumlein 300Hz" in shape, but it has a well-damped resonance at 5kHz, and the higher frequencies are much inferior. They peak -4dB at 6kHz and -13dB at 8kHz. I say "peak," because the actual recorded level varies with the rotation of the disc - twice per rotation, in fact, following variations in groove depth. This shows that the mechanical impedance of the lacquer was comparable to the mechanical impedance of the cutterhead armature. Neither the MSS nor the BBC Type B cutterheads had such a low mechanical impedance, so I am sure this run was cut by a Presto cutterhead, despite the pressings being made almost a decade later. There are no announcements, so I do not think the run was intended to be used seriously. Instead, I consider it reflects the real performance of the original Presto gear.

Other single-sided sixteen-inch BBC Archives discs have a different frequency run on the back (for example, X18991 or X20755). This is recorded at the full sixteen-inch diameter and includes a professional announcer to speak the frequencies. So it is probably the stamper for a routine engineering test record which hasn't survived

elsewhere. But as it has no label, I cannot assume this. It is the weak link in my reasoning, which means I cannot assume it documents the *intended* characteristic. But it is a very accurate "Blumlein 300Hz" at all frequencies up to 10kHz.

The curve for coarse-groove 33s definitely changed at a later date (about 1949), but as 78s are equally affected, I shall present the evidence in the next section.

11. Later BBC coarse-groove systems

I am obliged to give this section a rather vague title, because what I mean is the equipment designed to cut discs to be reproduced by E.M.I Type 12 pickups. This model of pickup was developed during the last days of the war. Such was the demand from professionals and researchers that it was not available domestically for some years (Refs. 4, 5). With a minor BBC modification, its open circuit response (that is, its output when connected to a high electrical impedance) was flat to 10kHz. But if it was terminated with an impedance of the order of ten ohms, a slope approaching 2dB's per octave resulted. This was a reasonable compromise between the constant-velocity of British commercial records and the ideal constant-amplitude curve. I have examined the circuit-diagrams of many BBC reproducing systems (including those on cutting-lathes) to check that the pickup was always terminated in this manner. It was often used with a matching-transformer whose characteristics were described in a different manual, so the circuit-diagrams on their own are not sufficient; but when I took this into account, I found that wherever there was an E.M.I Type 12 cartridge, there was also a load between ten and twelve ohms, without exception. The 2dBs-per-octave characteristic would be engineered into the cutting amplifiers when the pickups changed.

A new cutterhead, the BBC Type B, was developed which also had a response to 10kHz. It was less sensitive than the Type A, so it could not be used with the Type C battery portable equipment. Its lack of sensitivity (and therefore liability to overload) was compensated by non-motional feedback, which also neutralized a low-frequency turnover due to the resistance of the coil (which now had to be engineered into the cutting amplifiers). The new cutterheads were installed on the new BBC-designed Type D lathes. Prototype Type Ds were used from the spring of 1945, and aural evidence suggests they were recording Blumlein 300Hz. But there were evidently some modifications before July 1947, when a paper describing the equipment also described the "2dB's per octave" equalisation (Ref. 6), and the production-run dated from January 1949. (You can tell a Type D recording because it has a motor-driven scrolling mechanism, giving a runout groove of absolutely constant pitch). The Type D was used for both 78rpm and 33rpm coarse-groove discs, although the radius-compensation was different of course. An identical cutterhead mounted in a different-shaped case was retro-fitted to the Presto machines about the same time. The

electronics of all these machines were designed to give the inverse characteristic to the EMI 12 pickup.

This is documented by two surviving 78rpm test discs, XTR311 and DOM85, both with professional announcements, so giving the INTENDED performance. As the curve is rather difficult to synthesize using conventional networks, I append herewith a circuit developed by Adrian Tuddenham which gives the required characteristic within 0.5dB (Fig. n).

No 33rpm frequency-response test discs for use with E.M.I 12 pickups survive, but all the circuit-diagrams for both recording and reproducing gear show there was no equalization-change between the two speeds, so it seems certain the "2dBs-per-octave curve" applies to 33rpm coarse-groove discs from this time as well.

An exception may be found in Wales, where semi-portable Presto recording kits were fitted with Type B cutters fed from NON-feedback amplifiers; presumably these behaved like classical electromagnetic cutterheads under these conditions. This would only apply to mobile recordings made by Cardiff, Swansea or Bangor from 1945 onwards (the R.P. Ref. No. prefix would be MCF, MSW or MBG). Also, the wartime Type A cutters continued on Type C lathes elsewhere until at least 1961. To recognise these I use the lack of scrolling facilities, the general instability in groove-depth, the striations caused by the swarf-brush, and (on Current Library nitrates) the M before the R.P. Reference Number. Irrespective of date, these should all be reproduced "Blumlein 300Hz", as we saw in section 9 above.

From about 1949 to 1952 the BBC Permanent Library and Sound-Effects sections acquired, and in most cases re-mastered, a collection of wildlife and other sounds recorded by Ludwig Koch. Many of these had first been recorded in EMI's mobile recording van in 1936-1937 using Blumlein equipment, while others were done upon Koch's own portable MSS recorder after the war. Both would have given "Blumlein 300Hz" equalization. I have had the privilege of hearing test-pressings of some of Koch's originals, and can confirm that they were reproduced to the wrong characteristic when they were dubbed. Fortunately, the situation can be reversed by reproducing the dubbings to the "Blumlein 300Hz" characteristic instead of the correct characteristic. Ludwig Koch's name always appears on the labels.

Now comes the really important question. How can you tell whether a recording is done to the "Blumlein 300Hz" characteristic or the "2dBs-per-octave" characteristic? I am afraid you cannot. Before May 1945 it is bound to be "Blumlein 300Hz," and after 1949 it is bound to be "2dBs-per-octave," but the changeover is ill-focused. I can only make the following suggestions:

(a) it would have been logical to change the recording equalization at the same time as the new pickup cartridges were installed. This was probably done in one BBC building at a time, starting at Broadcasting House and working through the other London premises, through the major regions, to the minor regions;

(b) material recorded especially for BBC Archives, BBC Sound Effects, etc. would have been given higher priority in view of the likely usage at a later date;

(c) listening tests done with a number of BBC Current Library nitrates suggest that the vast majority did not change to "2dBs-per-octave" until the spring of 1949, but the prototype Type D's may have antedated this.

Some types of disc do not carry any dates - Sound Effects and Transcription pressings - so I will repeat the above paragraph in matrix-number terms. Coarse-groove matrixes below 50000 are bound to be "Blumlein 300Hz," and those above 70000 are bound to be "2dBs-per-octave."

12. Early microgroove discs

The first BBC microgroove discs of the 1953 Coronation were cut by a commercial firm. A year or two later the BBC commenced its own microgroove mastering on modified Type D equipment, but with new recording characteristics.

First we will consider the domestic discs (i.e. those *not* mastered by the Transcription Service), which have an R in the matrix prefix. No details of the circuit modifications for the domestic microgroove machine seem to have survived, but there is little doubt that a curve equivalent to "Blumlein 1000Hz" was adopted. (That is, constant-amplitude below 1000Hz - 159 microseconds - and constant-velocity above that). I obtained this information by three different methods: comparisons between Sound Archive discs and surviving master-tapes (e.g. LP25682 and TBS17227), comparisons with commercial discs of the same material (e.g. LP24626 and Decca LF1330), and with double-sided discs of similar material (an example will be mentioned in the next paragraph). I have no doubts myself, but I must stress that this is my subjective judgement. Objective truth cannot be established unless someone discovers a

microgroove BBC frequency test-disc of the appropriate provenance, or an internal engineering memo on the subject.

This aural evidence also suggests that the domestic Type D machine retained this circuitry long after British and International standards were adopted by everyone else - at least until the end of 1960 - the change being between matrixes 105402 and 105506. Even this is not quite clear-cut, because "Take 2s" and "Take 3's" of lower numbers exist, which are also RIAA. One notorious example is BBC Sound Archives LP25926, comprising one long poem read by the author W. S. Graham, which has the matrix numbers 12FRM104536-3 and 12FRM104537. Side 1 is RIAA (the International Standard); but when you change to side 2, there is no readily-available technology which will equalise the sudden loss of bass and treble.

So, if there is *no* take-number (implying "Take 1"), if it is a BBC microgroove disc with an R in the matrix prefix, and if the matrix number is less than 105403, I personally consider the item should be equalised Blumlein 1000Hz.

13. CCIR characteristics

The 33rpm coarse-groove discs made by the BBC Transcription Service in 1954 and 1955 (with a P in the matrix prefix) specifically state "CCIR Characteristics" on the label. The earliest and latest examples known to the writer have the matrix-numbers 79342 and 88969. The former was in fact recorded on 23rd December 1953, so it is possible the Transcription Service intended the new characteristic to take effect from January 1954. The last one cannot be dated, but its subject-matter is the Mau-Mau Disturbances of February-April 1956. Thus it seems the Transcription Service did not change to either of the new International Curves for their coarse-groove 33s in 1955 or 1956. The turnovers for the CCIR curve were 3180Hz and 400Hz (50 microseconds and 450 microseconds).

The same curve is presumed to have been used for microgroove Transcription discs as well, but it is only occasionally mentioned on the labels. Quite a few domestic BBC Archive microgroove discs were made from Transcription matrixes during these years; these would also be CCIR, unlike the domestic ones. It is easy to tell; the P in the matrix prefix gives it away. Besides, they usually carry a conspicuous sticker over the Transcription label to "convert" them into Permanent Library discs. Or they have words such as "With T.S Announcements" or "As edited for T.S" on the label.

14. RIAA and beyond

From 1956 the BBC Transcription Service used the new international RIAA standard for microgroove discs (75, 318 and 3180 microseconds). This is certainly true for all matrixes with numbers greater than 10FPH 97650.

Domestically the BBC did not change to RIAA for its microgroove discs for another four years. The earliest for which RIAA is certain has the matrix number 12FRD105972, but subjective evidence suggests that 10FRM105506 is also RIAA.

There is absolutely no doubt that the BBC continued its own "2dB-per-octave" characteristic (section 11) for all coarse-groove discs, whether processed or not. They continued to be compatible with E.M.I 12 pickups until the last Current Library nitrates were made in 1966.

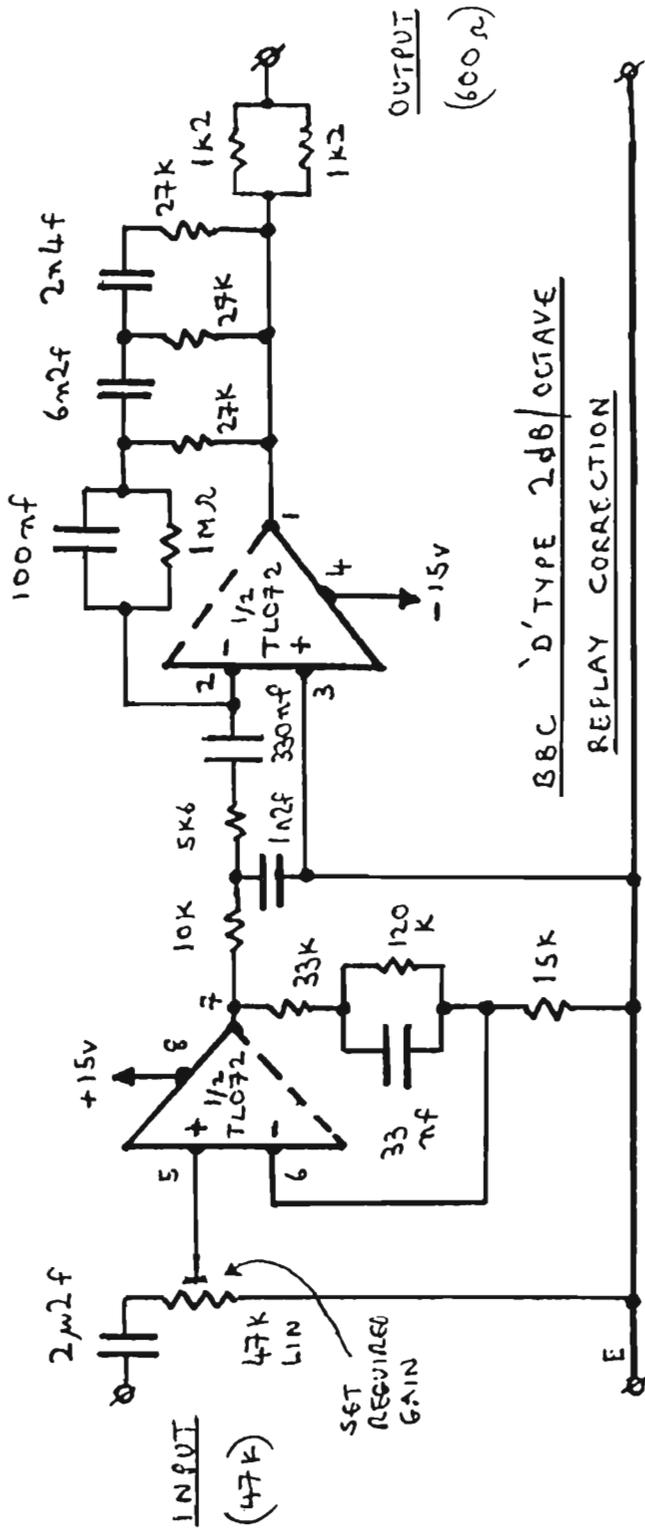
There are numerous examples of 78s being dubbed to microgroove in the 1960s and 1970s, and I must warn you that many early ones show signs of having been reproduced to the "2dBs-per-octave" characteristic instead of "Blumlein 300Hz." You may find it necessary to reverse-engineer this mistake, which will only occur on pre-1948 subject-matter. If the microgroove dubbing has a matrix prefix incorporating the R which determines that it was mastered domestically, and the matrix-number is less than 105403, then the situation has been made worse by the use of the "wrong" LP equalization as well.

15. Brief summary of BBC disc characteristics

For all pre-1945 coarse-groove discs, and post-1945 ones cut on mobile recording equipment, use "Blumlein 300Hz," except for pressings made from Homo (sic) matrixes.

For all post-1949 78s (excluding mobile recordings), and all post-1949 coarse-groove 33rpm nitrates, use the BBC's own "2dBs-per-octave" curve (Fig.7.752).

Fig. 772



For all microgroove records whose matrix prefix includes the R for "domestic," matrix numbers less than 105403, and no "take" number, use Blumlein 1000Hz. (This applies until about the end of 1960).

For BBC Transcription discs made in 1954 and 1955 (with a P in the matrix prefix), use CCIR Characteristics (50 and 450 microseconds).

For all post-1956 microgroove discs with the P for "Transcription" in the matrix prefix, and post-1961 microgroove discs with the R for "Domestic," use RIAA Characteristics (75, 318, and 3180 microseconds).

For all other discs, please consult the text.

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National Film And Sound Archive (Australia)

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Paper presented at the "Sound bibliographic strategies" meeting,
Library of Congress, Washington D.C., 22 September 1995,
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Scope and size of the NFSA collection

The National Film and Sound Archive in Australia holds approximately one million film and sound carriers and one million printed documents.

In 1995 our estimated holdings of sound carriers were:

78 rpm discs with Australian content	120,000
78 rpm discs with international content only	84,000
plus duplicates targeted for deselection	250,000
(of which by April 1997 200,000 had been disposed of)	
vinyl discs (Australian and international)	200,000
acetate discs with Australian content	14,000
cylinders (including of international content and duplication)	10,000
radio transcription discs (Australian content)	90,000
audio tapes	56,521

The 56,521 audio tapes mostly contain Australian material, including oral histories relating to the film, music and broadcasting industries, radio material from commercial, public and community radio stations, folk life, musical concerts of all genres, master tapes, political speeches, significant events, wildlife and sound effects.

13,322 of these, however, were flagged for possible deselection as they include masters for LPs manufactured and released in Australia but having only international content, spoken word recordings of conference proceedings not relevant to the Australian film, television, music and radio industries and likely to be preserved in print at the National Library (for instance conference proceedings of veterinary surgeons or business managers). recordings for the blind and excess radio advertisements (for instance, while the Archive would retain a sample of advertisements for Campbell's tomato soup from 1960, it would not necessarily wish

to retain 10 or 20 of these from the same year.) An estimated minimum of 8,000 audio tapes were deselected and disposed of by April 1997.

Early days - 1984-1991

Initially our main effort for controlling our recorded sound collections concentrated on accessioning unpublished recordings, namely lacquer (acetate) discs and audio tapes. Manual systems developed for the collection at the National Library prior to the Archive's establishment in 1984 were maintained until 1986.

In the late 1980s we concentrated on the lacquer discs through a program specially funded by the Australian Government. Initially the program funding was for preservation of nitrate film. However, we were able to successfully apply for an extension of the scope of this program to include these discs. During this time the lacquer discs were dubbed to interim safety tape without filtering or equalisation. They were necessarily auditioned, and brief accession records were entered to one of two earlier data base systems employed by the Archive to document and control its recorded sound collections. The first of these systems was AUREC, a small Dbase IV system developed in-house by sound preservation staff and in use from 1986 to 1988. The second system was SONICS, developed on Oracle by experienced programmers and in use from 1988 to 1992. This occurred at the same time that the Archive's Film Location Inventory Control System (FLICS) migrated from an Adabas Natural system to Oracle.

AUREC was designed to support the existing workflow, and data capture concepts were simply an automation of the existing manual accessioning system. Both AUREC and SONICS employed the concept of host item and analytic records because our preservation, duping, access and interim safety tapes were usually compilations rather than 'one to one' dubs. Both systems allowed the analytic records for the 'tracks' to be linked to as many host items as necessary - i.e. to the original unpublished carrier and to the in-house compilations. At the implementation of SONICS, all the data in AUREC was converted to SONICS.

Also during this time:

* some accessioning was done for a few thousand audio tapes particularly where these needed preservation work (copying) or conservation work (re-spooling of badly 'packed' reels);

- * approximately 80,000 78rpm discs received a database record, the only information captured being the Label and Catalogue Number, indication that the recording was a 78 and 10" or 12" in size, and its location;
- * a thousand or so vinyl discs were accessioned with Title, Creator (e.g. Composer, Author), Key Performer/s, the Label and Catalogue Number, indication that the recording was an LP or single and 7", 10" or 12" in size, and its location;
- * a small number of various carriers requested for client access purposes, requiring preservation work or being mastered for commercial release were accessioned.

Collection Management Team (*Comat*) - 1991-1993

For the large part of 1991 to 1993 the Archive closed its doors to access clients, donors and depositors and redeployed the majority of its staff to bring a reasonable level of control over the collection. We called this mammoth task *Comat* or 'Collection Management Team'.During this period we developed MAVIS, separated the sound recordings with Australian content from those with international content, documented our then holdings of 56,521 audio tapes at the consignment level and accessioned 4,150 of these, accessioned 30,000 of our estimated holdings of 90,000 radio transcription discs, and flagged 25% of the audio tapes and 33% of our total holdings of 709,197 discs and cylinders for deselection.

Also, by the end of *Comat* 29,475 videos were accessioned of our then holdings of 32,768, and 1,050 were of these were flagged for deselection, while 124,550 cans of film of our then holdings of 183,805 were accessioned and 16,904 were flagged for deselection. It is important to note that the accessioning totals for film and video included work completed in FLICS from earlier years and converted from FLICS to MAVIS while the accessioning totals for sound recordings represented work done during *Comat* only.

All unaccessioned material was "mapped" (see explanation below) and smaller quantities of all formats which were neither accessioned nor flagged for deselection were flagged for probable accessioning or for further evaluation.

It would be fair to say that by the time of *Comat* the level of detail entered for an **accession** record for any material at the Archive became closer to what other collecting institutions might consider as basic cataloguing. Sometimes, but not always, subject headings are also included in this process.

By “mapping”, the Archive means the creation of an automated record in a special module of the MAVIS database system for a large group of unaccessioned carriers. A “map” record contains indication of:

- the number and type of carriers
- source from whom they were received
- a brief note on general scope of content
- general condition (when applicable)
- location of the group of carriers in the vault
- whether the material is targeted for deselection (when applicable)

Development and implementation of the Merged Audio Visual Information System (MAVIS) - 1992 to date

MAVIS was designed and implemented during the *Comat* project to support all the collection management, accessioning, cataloguing, conservation and preservation treatment, tracking of movement, location control and movement (circulation), statistical reporting and information retrieval (access) functions for all the Archive’s recorded sound, moving image and documentation collections. The Archive believed that we needed one single system to do this. The key reasons for this were that maintaining two or more systems to do more or less the same thing for the different media collections would be unnecessarily expensive, while access to all the information through one system alone would help us to provide a much better and more efficient service to our clients (both internal and external).

Extensive consultation with all users during the design phase resulted in the best possible combination of functions the Archive could identify and achieve for MAVIS at the time. The design aimed to address as much as possible of what all users needed from the system. Today Archive staff are generally happy that the system supports them effectively in their work.

MAVIS uses Oracle version 7 and the Archive runs MAVIS under UNIX on a Sequent Symmetry 2000/450 Minicomputer with parallel processing capacity. The computer we use has 156 megabytes of memory with 8 gigabytes of on-line storage. MAVIS is also capable of running on IBM and DEC systems, and of being ported to other Oracle/UNIX platforms. A Graphical User Interface (GUI) is being developed for MAVIS and will be ready during 1997. To date MAVIS has been purchased by the National Library of Norway and the Library of Congress.

In 1992 the Archive converted all the data for moving image materials from FLICS, and most of the data for unpublished sound recordings together with selected data for commercially issued recordings from SONICS. For recorded sound this meant approximately 12,000 Covers (host records), 14,000 Components (records for physical carriers) and 58,000 Segments (analytic records) were converted to MAVIS.

There are several modules in MAVIS. In short these deal with:

- * **acquisition** (documenting of newly received consignments)
- * **accessioning** (entry and editing of essential data elements for intellectual and physical description of items, automatic allocation of unique shelf location ('rack') numbers, production of bar code labels which are affixed to the item's container/s and display the rack number and title).

The accession record allows for use of host ("Cover") records and analytic ("Segment") records. Segment records are able to be linked (using the MAVIS record identification number) to as many cover records as necessary. Both the Cover and Segment records are where intellectual descriptive data is stored.

Physical description, shelf location (rack) number and details of source and method of acquisition are stored in the 'Component' record which is linked to the Cover record. (A Cover record may have as many components linked to it as there are exact copies of the work/s contained on the Cover). A component may have one or more carriers.

"Buttons" at the bottom of the Component screen may be opened to display additional screens allowing entry and display of highly detailed technical and condition information, preservation treatment, and other information relating to individual copies. These buttons are mostly used by the Archive's Preservation staff, but are available to all staff to view.

- * **Cataloguing** is done in the same screens used for accessioning and simply requires editing and upgrading of the accession record and the addition of subject headings if they have not already been entered.

- * **Collection level entries.** When appropriate, Collection Names are linked to component records.

- * **Authority Files** for Names, Subjects, Series Titles, Record Company Labels and Collection Names.

- * **Movement**, which allows booking of individual carriers to staff members, external clients and laboratories, and the Archive's vaults.
- * **Reporting**, for instance production of labels for tape boxes and CDs showing the titles of the tracks and their position on the carrier, production of statistics for management purposes, etc.
- * **Query**, allowing Boolean searching on many fields, as well as free text searching.
- * **Mapping** of unaccessioned related material (e.g. a consignment received from a source) broadly indicating scope, condition and location of the material.
- * **Another feature** of MAVIS is the extensive use of lists of **coded information** which may be either directly keyed into the field (if known) or displayed through a 'look up' function and 'returned' to the field. A plain English translation of the code displays next to it in the screen.

The Present - 1994-1995

Recently the Archive has carried out some accessioning and cataloguing projects to target particular parts of the Australian content of the collection:

One of these, *Retrodisc*, is designed to accession commercially issued discs featuring Australian performers. Roughly 4,000 discs (not counting second and third copies) have been entered to MAVIS for the following artists/composers:

Jazz

Frank Coughlan, Graeme Bell, Ade Monsborough, Don Burrows, Ray Price, Dave Dallwitz, Judy Bailey, Red Onions, Frank Trainor, Galapagos Duck, James Morrison, Vince Jones, Margaret Roadknight.

Pop/Folk

Judy Stone, The Easybeats, The Seekers, Skyhooks, Renee Geyer, The Delltones, Cold Chisel, Jimmy Barnes, The Triffids, Judith Durham, Max Merritt & the Meteors, Gary Shearston, The Birthday Party, Flying Circus, Doug Ashdown, The Church, Jeannie Lewis, Reg Livermore, Johnny Ashcroft, Johnny O'Keefe, The Cobbers, Daly Wilson, John Farnham, John Williamson, Billy Thorpe & the Aztecs.

"Early" Popular

Brian Lawrence, Len Maurice, Jack Lumsdaine, Gil Dech, Horrie Dargie, Jack O'Hagan.

Western Art Music

John Brownlee, Marjorie Lawrence, Florence Austral, Nellie Melba (including the Hogarth-Melba collection of an additional 120 x 78s, catalogued as a separate project), John Williams, Elsa Stralia, Frances Alda, Amy Castles, Margreta Elkins, Yvonne Kenny, Hartley Newnham, Percy Grainger, Joan Hammond, Gladys Moncrief, June Bronhill, John Antill, Sir Bernard Heinze, Peter Dawson, Lauris Elms, Peter Sculthorpe, Harold Williams, Donald Smith, Joan Sutherland.

Country

Shirley Thoms, The McKean Sisters, Buddy Williams, Tex Morton, Smoky Dawson, Anne Kirkpatrick, Slim Dusty, Col Joye, The Joy Boys, Jean Stafford, Nev Nichols, Rick & Thel Carey, Reg Lindsay, Lionel Long.

Aboriginal and Torres Strait Islander discography

A draft discography of commercially issued performances by Aboriginal and Torres Strait Islander artists was produced in 1995 as a joint effort by members of the Collection Development and Cataloguing Sections. An updated publication is planned.

Radio Serials

A draft *Catalogue of Australian Radio Serials* generated from the Series Title Authority File has also been produced. This was circulated to interested members of the Australasian Sound Recordings Association (ASRA) for further input, correction and comment. We were delighted with the very positive response and good information which was forthcoming from ASRA members, many of whom were involved with radio during the 1930s through 1950s. An updated edition is due to be released in the not too distant future.

World War 2

In 1995 the Cataloguing Section produced *World War II. Australians at Home and Overseas: a Selected Catalogue of Moving Image, Recorded Sound and Documentation Materials from the Collection of the National Film and Sound Archive* (ISBN 0 642 22953 8).

MAVIS CD-ROM

In mid-1995 the Archive created *Cultural Connections* a CD-ROM of the data on MAVIS. This contains all non-confidential records on the system and is designed to improve access to the collection by our clients. The data includes both accession and catalogue records which in turn reflect the changes we have made to our internal editorial standards over the years. An updated CD-ROM of MAVIS data is presently planned.

Today our goals are to produce more special subject catalogues and keep up to date with the accessioning of incoming materials.

As at 29 April 1997 MAVIS contained:

132,474	cover records (i.e. host records containing intellectual data)
171,733	segment records (i.e. analytic records linked to cover records)
2,851	series titles (including summaries describing the broad scope of content of the series)

and records for components (linked to cover records) for the following numbers of carriers:

81,896	discs (79,896 accessioned and around 2000 converted from SONICS)
26,690	audio tapes (17,690 accessioned and around 12,000 converted from SONICS)

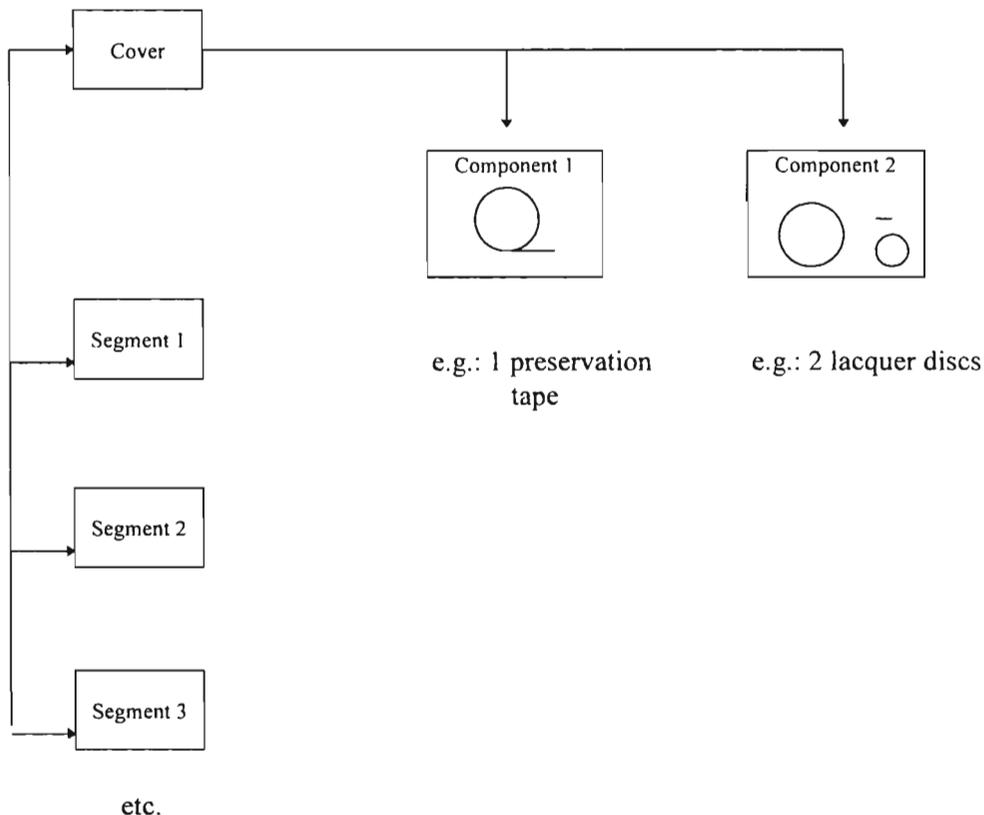
as well as:

163,935	acetate film
17,318	nitrate film
46,319	video tapes
26,135	documentation items

A diagram outlining some of the basic structural and linking concepts in MAVIS now follows.

*National Film and Sound Archive.
Merged Audio Visual Information System (MAVIS)*

A. Concept of linked Covers ('Host' items), Segments (Analytics), Components and Carriers



B. MAVIS Authority Files

Type of heading used in the following record types as index points.

	COVER	SEGMENT	COMPONENT
Names	Y	Y	Y (Source)
Subjects	Y	Y	-
Series Titles	Y	Y	-
Company Labels	-	-	Y
Collection Names	-	-	Y

REVIEWS

Pekka Gronow. *The recording industry: an ethnomusicological approach* (ser A vol. 504). Tampere, Finland: Acta Universitatis Tamperensis. 1996. 176pp. Photographs, bibliographies.

Pekka Gronow is one of the world's leading authorities on the recording industry especially as it relates to so-called 'ethnic' music. His writings have appeared in a great many periodicals and journals from the 1960s to the present day, where his interest has focused largely on records as a business and as a mass medium. Much of his research has concerned his homeland, Finland, but he has worked extensively on east-European, and east- and south-Asian countries too. The current volume brings some of these writings together, combining geo-specific studies (papers on the record industry in Finland, the USA, the former USSR, and the 'Orient'), with more broadly encompassing analyses of the industry world-wide. Six out of the seven papers have been reprinted from other sources.

The leading article, 'The recording industry: an ethnomusicological approach', is an extensive and provocative paper, previously unpublished, which argues for a more central place for the record industry in contemporary ethnomusicological study. Gronow examines the current place of the study of the recording industry, which up until recently has only played a part in popular music studies. Historically ethnomusicology has seen the industry as an enemy of tradition. There has been very little acknowledgement of its role in the creation of tradition. Since the "world music" phenomenon - very much a marketing, and business phenomenon - began roughly ten years ago, ethnomusicology has begun to examine musical cross-over in relation to concepts of 'globalisation'. By highlighting the role of the record industry, Gronow demonstrates that this is not a new phenomenon: internationalisation and the travel of all musics across borders has been part of musical culture since the turn of the century. The record industry represents a way of measuring these processes. By ignoring the industry, ethnomusicology has overlooked an area of huge significance. In this practical paper Gronow summarises and critiques existing research on the recording industry and suggests ways it could be integrated into a wider musicological framework. The paper concludes with an extensive bibliography.

The second paper, 'The record industry: the growth of a mass medium' (reprinted from *Popular Music vol. III*, 1983), Gronow crusades for the introduction of the recording industry into the discourse on almost all forms of music. This is a very thorough examination based on the available information drawn from a range of sources, including company statistics, meticulously noted at the end. With numerous tables he provides facts and figures to argue for the industry's status as a mass medium

as significant as radio, film and television. In the following article, 'The record industry in Finland, 1945-1960' (reprinted from *Popular Music* 14:1, 1995), he homes in on one geographic area. Based on his personal experience and on interviews with all the current players in the business, the paper describes the impact of records on Finland's musical culture. Besides providing statistical information, Gronow also refers to types of music and names of the most popular (highest selling) artists. So we learn, for example, that "Paul Anka was the most popular rock artist in Finland in the 1950s, with two number one hits, while Elvis only reached number nine" (p42).

Then 'The record industry comes to the Orient' in an article reprinted from *Ethnomusicology* (25:2, 1981). Like all the papers this is an historic account, here starting with the work of Fred Gaisberg who in 1902 sailed from England to India as representative for the Gramophone Company. The paper centres on the pre-World War I period and attempts to cover all the companies known to have been active in the Orient (loosely defined as North Africa, Asia and the Turkic population of Russia) at the beginning of the century. As usual he ends with a note on sources and extensive list of references. 'Ethnic recordings: an introduction' (reprinted from *Ethnic recordings in America: a neglected heritage*, American Folklife Center, Library of Congress, 1982) focuses on the history of ethnic or foreign-language recordings in the USA. Given the importance of the American markets, many themes from this paper are reiterated in other papers in the volume. Here they are placed within the context of the American cultural melting-pot situation, however, providing the reader with an understanding of why companies introduced so-called ethnic music, and what effect this had on the operation of the industry and on the creativity of musicians. Gronow uses numerous tables and historic photographs, and concludes with a 'checklist of 78rpm foreign-language records' in an appendix. This provides an easy guide to record release dates, and indicates how music was categorised by the companies. The paper is usefully seen in conjunction with Richard Spottswood's *Ethnic Music on Records: a discography of ethnic recordings produced in the United States, 1893 to 1942* (7 volumes published by University of Illinois Press, 1990).

The sixth paper, 'Ethnic music and Soviet record industry' (reprinted from *Ethnomusicology* 19:1, 1975), once again homes in on the record industry in a geographic area about which very little has been published. Using information from the company Melodiya, from record catalogues, and from on-the-ground fieldwork involving visits to record shops, Gronow examines the industry in terms of its policies and output of ethnic and folk music, and discusses the impact this had on the music of minority peoples in the region. Gronow acknowledges that the "findings are at best preliminary" (p91), but once again he presents previously-uncollated data which provides a starting point for further study.

The final paper is a brief contribution returning full circle to the international perspective. This time, however, he examines popular music in an article entitled: 'International trends in popular music' (reprinted from *Ethnomusicology* 13:2, 1969). The paper centres around a table summarising the origin of "Top Ten" records in thirty countries in 1967. The table not only demonstrates the relative industrial power of certain countries, it also indicates the relative impact of certain musical styles on cultures around the world. Moreover we can ask the question, as Gronow does, "...why does only 36 percent of Germany's "Top Ten" consist of local products, while the same figure in France is 81?" Gronow opines: "As there is no reason to postulate essential differences in economic conditions affecting recording industry in these countries, the only plausible explanation is that France has a vital native popular music tradition, while Germany has not" (p175). From the facts and figures, therefore, we are able to infer certain things about musical cultures around the world.

This very useful volume features self-sufficient articles side by side. By the end the reader feels he/she has learnt a huge amount, in a very readable way, about the international record business. Gronow makes a convincing argument for the importance of the study of the recording industry for the understanding of musics world-wide. The relevant information is 'out there' in countless magazines and record catalogues, but it is a painstaking business to collate it. For those of us wishing to learn more about the subject I can only say "Thank goodness for Pekka Gronow!"

Janet Topp Fargion
Curator, International Music Collection,
British Library National Sound Archive

Lawrence Earp. Guillaume de Machaut. A guide to research. New York, London: Garland Publishing, Inc. 1995; xix, 669 pp., 22 x 15 cm; ISBN 0-8240-2323-4 (cloth): \$ 95,00.

This exhaustive handbook on the life and works of Guillaume de Machaut contains, among others, a detailed annotated discography (pp. 389-445) which can serve as a model for a discography of music of the Middle Ages and of the Renaissance. The discography is organized in two parts which complement each other. There is first a listing of recordings of Machaut's music arranged alphabetically with descriptive annotations referring to the realization of each recording and a summary statement for all realization of each composition. The second part of the discography is an index by record label, providing full discographical reference for each sound carrier.

*Martin Elste
Staatliches Institut für Musikforschung PK, Berlin*

Peter Holenstein. Die sprechenden Maschinen. Studer-Revox. Das Lebenswerk des Audiopioniers Willi Studer. Zürich: Schweizer Verlagshaus 1996; 455 S., Abb., 30 x 22 cm; ISBN 3-7263-6713-6 (geb.): kein Preis angegeben.

Die Schweizer Firma Studer-Revox hat das analoge Tonbandzeitalter wie kaum eine zweite geprägt. Überall auf der Welt sind die Tonbandmaschinen im professionellen, semi-professionellen und im anspruchsvollen Heim-HiFi-Bereich zum Einsatz gekommen. Doch die Firma hat sich nicht auf die technologische Revolution im Bereich der Audiotechnik einstellen können. Jenes wirtschaftslogistische Problem ist aufgetaucht, das bei Familienunternehmen nicht unterschätzt werden darf: Mit dem Alter des Firmengründers altert auch die Firma, neue Impulse werden erst zu spät erkannt und es wird nicht schnell und umfassend genug darauf reagiert. So ging es Edison, und so ging es auch Willi Studer, der 1996 im Alter von 84 Jahren verstarb.

Der Publizist Peter Holenstein hat das Lebenswerk des Audiopioniers Studer aufgespürt und detailliert mit Engagement und Fachkenntnis beschrieben. Das reich farbig illustrierte Buch enthält jedoch nicht nur die Firmengeschichte der Studer-Revox mitsamt einer technischen Beschreibung aller gefertigten Audioprodukte der Firma (inklusive einem Glossar) und umfangreichen statistischen Angaben, sondern auch eine Biographie des Gründers und einen generellen Abriss zur Tonträgergeschichte bis zur Erfindung des Tonbandes. So ist ein nützliches Nachschlagewerk entstanden, das obendrein aufgrund seiner hervorragenden herstellerischen Ausstattung überzeugt.

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THE IASA BOARD CHARTS

Continuing a regular feature starting with the last issue in which members of the IASA Board are invited to write about the recorded sounds which first engaged their attention and those which they currently regard as indispensable listening. In the glare of the desk-lamp this month are Secretary-General Albrecht Häfner from South-West German Radio and Vice-President Magdalene Cséve from Hungarian Radio.

SECRETARY GENERAL'S TOP TEN (TOP HUNDRED, TOP THOUSAND)

Albrecht Häfner

The question "what are your top ten favourites?" always makes me a little bit embarrassed (just as those popular questions do when asking for one's favourite colour or "What objects would you take along if you had to stay on a desert island?"). It is almost impossible, as James McCarthy said in the last issue; at least if you are musically inclined. It is not just that figure 'ten' which is really arbitrary and far too much restrictive for me, but more than that, it is the missing object: is it the top ten songs, or top ten composers, or top ten interpreters etc. which are asked for? But even if I were to list ten favourite music pieces it would be like a snapshot of my present tastes, changing over the time and varying with my age.

I was born in a house full of music. Both my parents were musicologists and both played the grand piano, a wedding present from their parents. To hear music was an everyday matter, be it from the radio, in concert or from the turntable. Beyond his professorship, my father had the ambition to be a composer (among other works, he finished three operas which never were performed, unfortunately). There were no radical limitations to special musical genres or styles and my parents were by no means one-sided or dogmatic. Rather they discussed with me unbiasedly all those musical influences which a young person in a modern city is exposed to. This environment, of course, shaped and formed me, and my parents assisted me very liberally in all respects to find my own relationship with music.

On the other side, considering the practical part of my life, my parents advised me not to study music, knowing from experience that you have to be either excellent or to disappear in mediocrity. Better to have music as a hobby. I have never regretted this advice.

It is the harmonious element, the consonance, which makes music play a fundamental role in my life. And this criterion is true of so many pieces of music that I am unable to list a “top ten” - I would have one idea after the other, achieving no limits, and the list would amount to hundreds, thousands of “tops”. I have, of course, my favourite composers, my favourite styles, my favourite interpreters, for example the French impressionists. My predilection for Ravel and Debussy started when I was a young boy of about eight years. It was an evening in the late forties, when dad and mom were not at home, and I could look undisturbed into cupboards and chests, digging out a working gramophone (with a spring mechanism) and plenty of shellacs, among them Ravel’s *Rapsodie Espagnole*. I was so deeply impressed and fascinated by that music that I inserted it in a Punch and Judy show where I had to assist with illumination and noises (believe me, there were countless thunderstorms!). Of course, it was not in the proper style, but little children are far less critical of less-than-perfect performance than adults are. This love of Ravel and Debussy has persisted, and though their oeuvre is not that extensive as the work of Mozart, there are a few jewels: Ravel’s *Daphnis et Chloë*, *Pavane pour une infante défunte*, *Alborada del gracioso*, *La valse*, *Gaspard de la nuit*, *L’enfant et les sortilèges*, *Ma Mère l’Oye*, or Debussy’s *L’après midi d’un faun*, *Printemps*, *Childrens corner*, *Images pour orchestre*, *Le martyre de Saint Sebastien* or *La mer*. Strawinsky’s *Fire bird* belongs in that drawer, too.

There is another favourite drawer, labelled ‘sacred music’. It is not that I am very religious, but it is, obviously, the deep feeling of faithful composers for harmony which just meets my desire. It starts with Gregorian chants, includes masses (e.g. by Jan Dismas Zelenka) and ends with the organ works of J S Bach, Buxtehude, Reger, Saint-Saens to name just a few. An organ fugue is as attractive for me as honey for a bee.

A third drawer is labelled ‘Jazz’. As a matter of course, we had our parties as teenagers and we were, at that time, very unpretentious: a bare room, some candles (if at all, the street lanterns helped as well) and some jazz music for dancing; more we didn’t need. On the occasion of such a Spartan festivity, someone had put on the turntable *Django* by the Modern Jazz Quartet. Believe it or not, all of a sudden those rollicking and exuberant teenagers stood stock-still. Still today, it is with relish that I listen to the MJQ’s tunes. In the following decades jazz was explored in every detail by us as pupils and, later, as students. To name but a few. Dave Brubeck, Miles Davis, Oscar Peterson, Gary Burton and Pat Metheny come immediately to my mind if

you ask me for some of my jazz favourites, all of them as composers as well as interpreters. Not to forget Friedrich Gulda who, as an outstanding phenomenon, is appreciated as master of both the jazz and the classical piano.

A special drawer is labelled 'Brazil & Bossa Nova'. The union of Brazilian rhythms with European/North American harmonies has produced an unexpected mixture, almost a new genre of its own. Names such as Laurindo Almeida, Baden Powell, Luiz Bonfá, Elis Regina and Antonio Carlos Jobim are inseparably connected with the development of that Brazilian-born music.

Finally, there is a dearly beloved drawer: 'The Singers Unlimited', a singing quartet which goes back to the legendary Hi-Lo's. It was Oscar Peterson who discovered this group which was founded in 1967. Their talent is virtually as boundless as their name suggests: a perfect combination of faultless intonation, vocal intensity, jazz style feeling, sophisticated arrangement and almost unbelievable technical command. Something for the gourmet.

Well, now I could open up, since one favourite after another is coming into my mind. However, bearing also in mind that I have not yet arrived at the top hundred, let alone the top thousand. I like better to leave off...

ONCE UPON A TIME...
IASA Vice-President, Magdalene Cséve

I never wanted to be an archivist, simply because I didn't know what it was.

How do I feel now? I would not dare to be an archivist, simply because I can only guess what it is.

I owe a confession about what happened in between. Finishing my studies an offer came from the Hungarian Radio. I accepted it with great pleasure as I was dreaming always to work for it. That bright summer in 1968 sealed my destiny. Since then I have known "what a sound archive is".

At first I met with a lot of catalogue cards, known and unknown names on them. Interesting titles made this work more and more attractive. I discovered that not only artistic performances could be found, but also events referring to political and social life, to our history also. As I was searching for special names and speeches, for special dates and topics I began to set a higher value on the collection. It fascinated me a lot finding not only broadcast people or programmes in the collection, but some secret, so called closed, prohibited recordings. Most of them historical ones. Naturally those affected me the most. Historical and political events which I knew only from books or only from "oral illicit publication" came quite close to me. The greatest challenge was to recognize what happened in 1956, in those revolutionary days, which was a blank page in Hungarian history at that time.

It doesn't mean I became a historian or a researcher. Simply I was interested like an everyday somebody, but with more possibility. Enthusiastically I flung myself into the work. I listened to several hundreds of minutes of recorded and broadcast sounds those euphoric and later bloody days. It was shocking to recognize the voices of Imre Nagy, the Prime Minister, Cardinal Mindszenty, to listen to the broadcast material.

Then I searched systematically the documents which were closed to the listeners and programme makers. World War II, events of the fifties preceding the revolution and the political, conceptional actions after. I didn't want to believe to my ears.

Some years have passed. At the end of the eighties all the restrictions were lifted everybody could use all kind of documents. Those days were unforgettable. I would have never believed it before.

The year 1977 - when I was introduced to IASA - my interest turned to the beginning of sound recording. To my great pleasure our radio archive, similar to the greatest

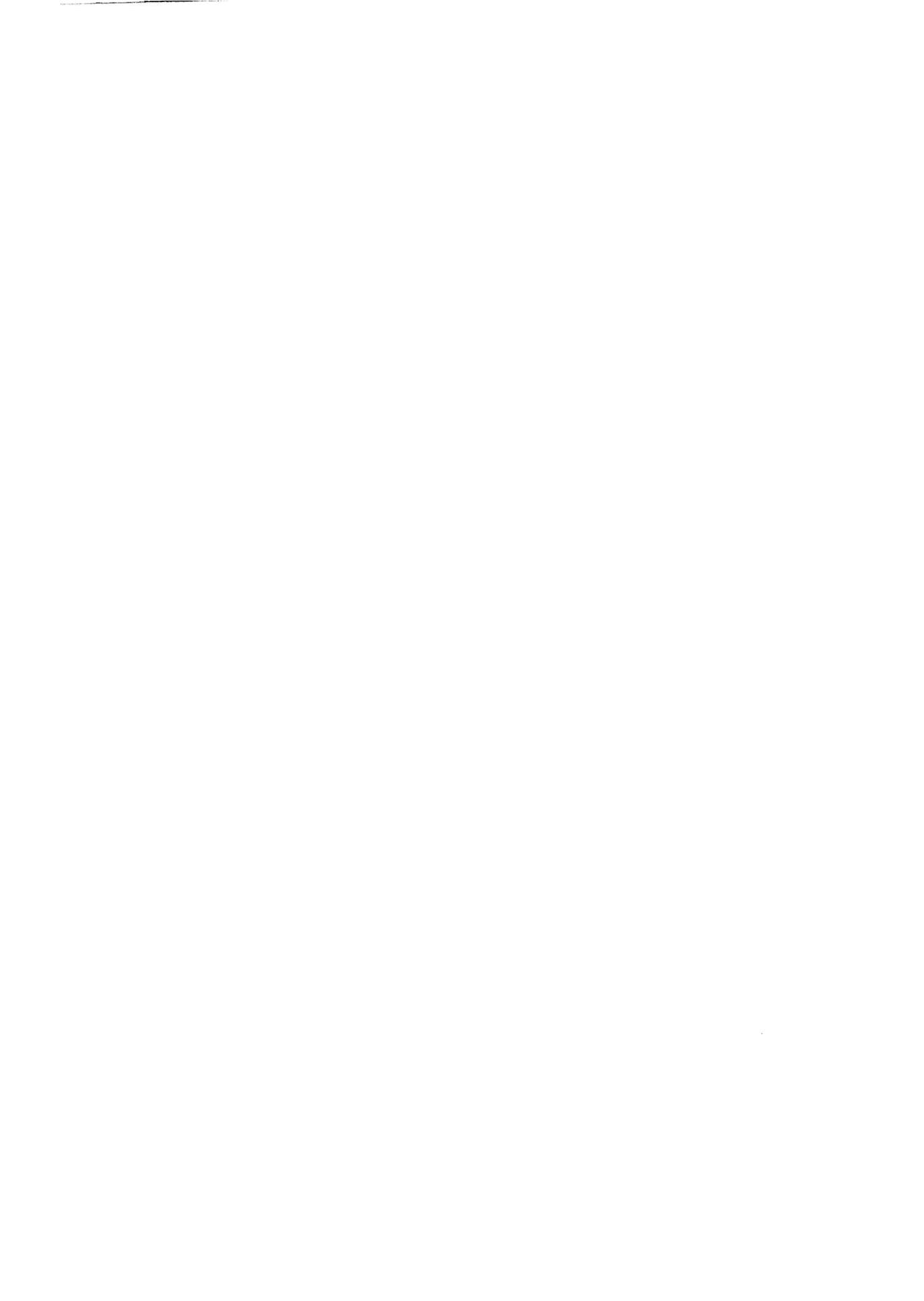
sound collections, possessed the famous oldest 'sounds' too, like Edison, Franz Josef, etc. But I was interested in finding the greatest, the oldest documents relating to Hungary. Sure you'll believe me what I felt during listening to the first orchestral record of our national anthem made in 1906. Then nobody thought that it was not the oldest record. Nobody guessed a precious record has been waiting to be discovered. In the seventies, thanks to an enthusiastic collector, an old cylinder was found. It was made in 1890 and it preserved the voice of Lajos Kossuth, a significant personality of our last century history.

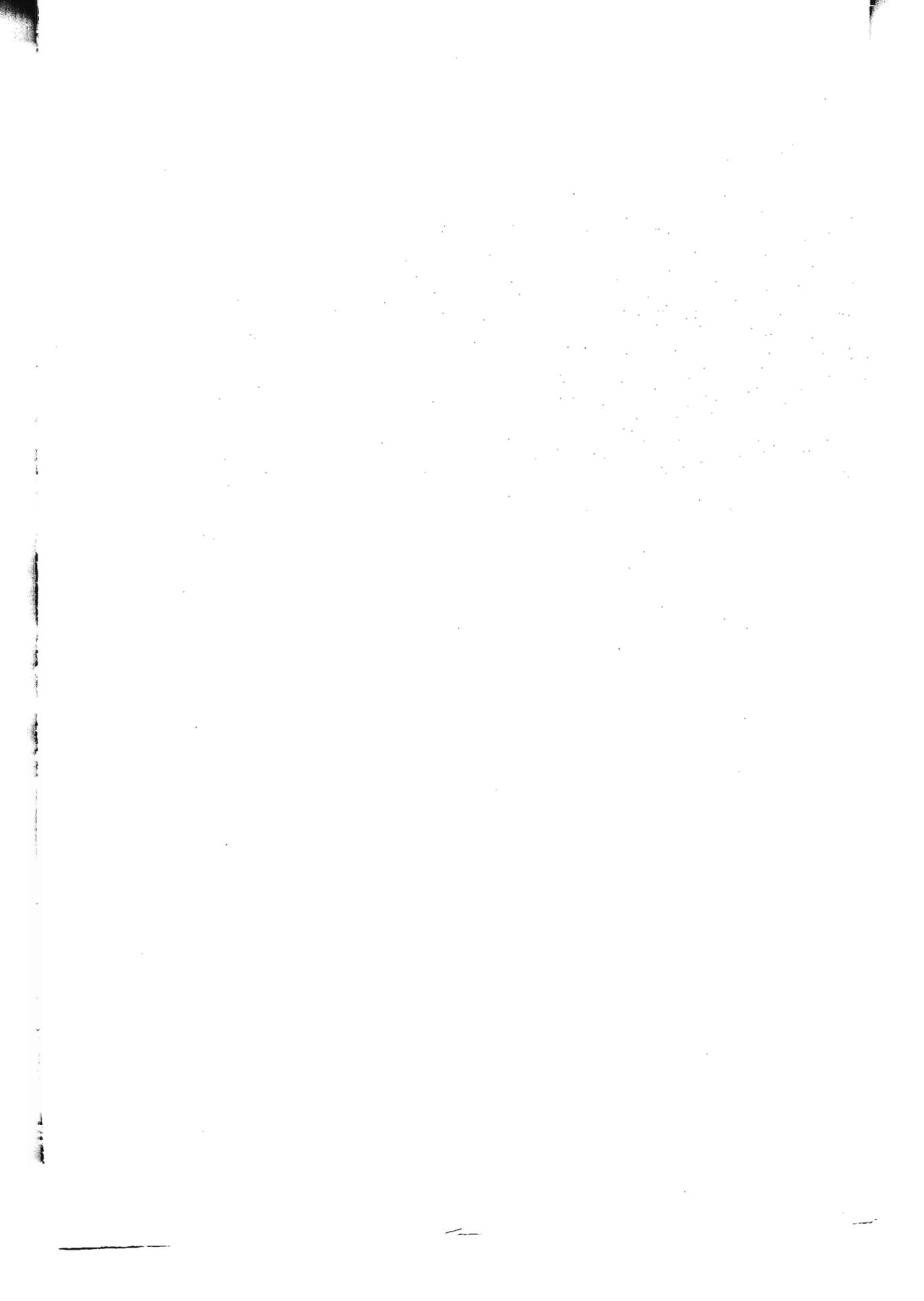
As the years passed and as the policy flushed our everyday I enjoyed music more than the spoken word. Our collection offered famous, well-known records of beautiful concerts conducted and played by here in Budapest: Toscanini, Klemperer, Rossi, Ansermet, just to mention the famous. Or great Hungarians: György Cziffra, György Solti, musicians, singers, orchestras. The seventies and the eighties offered a lot of possibilities.

Please don't think I have never listened to light or popular music. Yes I updated my musical knowledge, but it is already another chapter.

Nowadays it would be hard to answer which are my favourite recordings or to set up a top list of them. But I think as unfortunately the public broadcasters spoil us by more and more conversation-moderated programmes and the commercial channels by loud music my interest is going to turn to the valuable radio prose, radio plays, dramas recorded ten to twenty years ago and kept in our archive, works by famous national and international authors.

You see now how my life was influenced and formed by recorded sound. Spoken word epoch, music epoch. To work in an archive means a great responsibility. Am I now really an archivist? Who can give me the answer?





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