

International Association of Sound  
and Audiovisual Archives

Internationale Vereinigung der  
Schall- und audiovisuellen Archive

Association Internationale d'Archives  
Sonores et Audiovisuelles

Asociación Internacional de Archivos  
Sonoros y Audiovisuales

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**ERRATUM**

**IASA Journal No. 28 (Dec. 2006):** The paper, *Rescued From Oblivion: The True Story Of A Cylinders Collection In Catalonia*, by Margarida Ullate I Estanyol, from the Library of Catalunya, Barcelona, Spain accidentally did not include the name of Prof Joan Codina as co-author. We apologise for any inconvenience.

Special collections deserve special attention. UNESCO's Memory of the World programme is doing exactly that. This year the International Advisory Committee (IAC), held its two-yearly meeting in South Africa to consider 54 nominations for inscription in the Memory of the World Register. The purpose of the Memory of the World Programme is to promote the preservation of the global documentary heritage against natural and man-made disasters. An ambitious - but vital undertaking - considering that without proper care our collections, both paper and audiovisual, would otherwise deteriorate beyond restoration; and if playback equipment were not maintained, or audiovisual collections not transferred onto sustainable digital formats, eventually they would no longer be available.

And so we embarked on the long road to digitisation, hopeful that we will indeed have saved our audiovisual collections, and have rescued them from oblivion to achieve uncomplicated, effortless access. Digitisation has opened new access possibilities that we never dared imagine possible. Joshua S Harris hits the nail on the head, when he writes about the digitisation projects to preserve the National Geographical Society's archive ....' *The digital age has provided archives not only with a means for future preservation, but a platform for presentation to the general public, thus filling a void and taking collections off the shelves and into the home and school. It is this availability that makes audiovisual collections a vital resource for education and information.*'

Which brings me to this IASA Journal. It is packed with reports and papers on digitisation projects that have succeeded to make collections available for educational and informational purposes. This creates a stir of excitement. It is reminiscent of my first IASA conference, in Perugia, Italy, in 1996, when Dietrich Schueller, well-known IASA technical expert, excitedly gave a report on new digital developments, then still obscure to most of us. Ten years later, the British Library launched an ambitious project, *Archival Sound Recordings*. In a similar vein, the Danish Broadcasting Corporation launched their *Iskole* project to make their archives available to schools.

The Journal also brings you the papers from Mexico City, translated from Spanish to English: Dr Lidia Camacho, Director-General of the Fonoteca Nacional, Mexico City, shares her experience with a project she helped launch with Radio Educación to preserve this cultural history of Mexico. Lidia Camacho's paper is complemented by the paper from Perla Olivia Rodríguez Reséndiz. While the history of sound and examples of early sound recordings are not new to us, Fernando J Álvarez del Castillo Astiazarán, Director-General of Radio UNAM in Mexico City, writes charmingly about those early years of sound recordings and linking it to the early recorded sounds of Radio UNAM.

We will expand on this theme at the conference in Riga, Latvia, where we will look at *Building an Archive for the Future*. And hopefully some of the lessons learned as traditional storage media deteriorated can be applied to future digital storage media to ensure that it remains intact and decipherable. We hope to see you in Riga, Latvia, to continue these lively discussions on digitisation, preservation and access.

Summer has arrived in Ottawa. The temperature is rising. The leaves on the trees have reappeared and Ottawa's famous spring tulip display has come and mostly gone. The start of summer in Ottawa is marked by the Ottawa Race Weekend. This year more than 20 000 runners, joggers, and wheelchair athletes from all over the world participated in a variety of races from a 2 km family run to the full 42.2 km marathon.

A career in the sound and audiovisual archiving field often feels like a marathon. Some just go for a short run and move on to other careers. Others are in it for the longer haul, but take a shorter course and confine their activities to their own institutions. Many go a little further and add occasional conferences and meetings to their working career. A few take on the full marathon, or even become 'ironmen', and assume leadership roles in IASA and other organisations. Some take their talents round the world and participate in meetings and seminars in Asia, Latin America, and Europe. IASA has a strong and committed team. The Board thanks all IASA's runners for their ongoing contributions.

For the dedicated runner, the sound and AV field presents many opportunities to show talent, enthusiasm, knowledge and wisdom, and to influence the collecting and preservation of the world's sound and audiovisual heritage. With the passing of time the field changes, some runners leave and new participants enter the race. Some of IASA's most dedicated marathoners are retiring over the next few months, including Crispin Jewitt, Dietrich Schüller and Albrecht Häfner. I wish them luck, thank them for the efforts, and hope that they will continue to exercise their talents in IASA in the years to come.

Being on the Board sometimes feels like a bit of a marathon but, in reality, it should be thought of as a relay. Each Board must be prepared to take up the baton from its predecessor and then, after a relatively short sprint compared with the life of the organisation, hand off the responsibilities of running IASA to the next Board. The next Board elections are scheduled for 2008, and the time has come to find IASA members who are willing to take up the baton and stand for office. A nominating committee is being formed, which will be in place by the time this year's annual conference takes place in Riga, Latvia. I hope you will give some thought to who you would like to see guiding IASA in the coming years. You can make a difference by participating.

As for this Board, we have crossed the half way point of our leg of the relay and are heading for the final curve. The Board held its mid-year meeting in Paris, and reviewed the agenda for the second half of our mandate. We covered many topics, including our publications; membership fee increases, and how to cushion the blow for our members from less prosperous countries; coming conferences; training and education; PrestoSpace, and many other issues. What is clear is that IASA is continuing to grow and develop as an organisation. We function in a rapidly changing environment - technical, institutional and political - which the Board recognises. This is a challenge for a relatively small organisation like IASA, but it also presents an opportunity for IASA, with its dedicated membership and its willingness to explore new options, to play a leadership role in the field. As this Board comes into the home stretch of our term, we hope we will provide the incoming Board with a clear presentation of the many issues facing IASA. A seamless passing of the baton is our goal.

The bends of IASA's course are marked by the annual conference. The 2007 conference in Riga, Latvia, deals with 'Building an Archive for the Future'. The conference programme, put together by Per Holst in co-operation with our joint hosts, the Baltic Audiovisual Archival Council and LTV (Latvian Television), is one of IASA's strongest and most intense ever. I hope I will have a chance to see you all there.

*Richard Green  
Ottawa, Canada*

## **The National Sound Library of Mexico: An Institution beyond the Preservation of Sound Archives**

*Dr Lidia Camacho, Director General of Fonoteca Nacional, Mexico City, Mexico*

*Paper presented at the IASA Conference 2006, Mexico City, Mexico*

Born out of substance and raised by senses and desire, memory is the most complete and perfect of human symbolic constructs. Though generated by individuals, its essence merges with the social being and, through an efficient path of communication it manages to become part of that common heritage that lives on through generations: tradition. Without memory there is no tradition, culture, roots, or product we can call our own, since memory is for each of the five senses, and for each human being the ground on which they sit and the beginning of their reason for living.

Memory, in individual and social terms, gets deposited in innumerable external niches, and gets shaped almost without sensing the different patrimonies which, over the years, become the extremely rich heritages of peoples, nations and the world. Unfortunately, the full value of those heritage is not appreciated, and this has led to the ruin, disappearance, and oblivion of more than a few of the riches we possessed until fairly recently.

That lack of attention and care of cultural heritage has reached very high levels in Latin America, especially with regard to sound and audiovisual archives. In that respect, it should be said that in Mexico there is an urgent need for a site dedicated to preserving our national heritage of sound. It runs a very serious risk of disappearing, not just because of the fragility of the analogue media on which it is held, the technological obsolescence of the instruments capable of reproducing it, and the imminent disappearance of this analogue equipment, but above all because this country lacks the tradition of conserving this intangible patrimony.

This lack of awareness has hindered appreciation of the enormous wealth contained in a sound archive and its virtually unlimited possibilities for the most diverse uses. These range from social, political and entertainment uses, to educational and cultural ones, where its value rises, since the sounds that characterise our daily life shape our identity, differentiating us from other cultures. Clearly, if we lose this heritage, part of our deepest being will disappear forever.

In Mexico, there are public educational and cultural institutions that have begun the task of archiving sound collections resulting from radiophonic production, research and the rescue of sound and musical manifestations. This labour has been carried on more with imagination than with sufficient economic and technological resources. This is why we believe it is particularly important for the public sector to implement a decisive policy to systematise the conservation, dissemination, and physical and intellectual control of sound resources.

It is therefore vital to have the guidance of adequate State policies that base its actions on the awareness of the fragility of the sound materials, and of the impending technological obsolescence of traditional sound media and equipment. Such a State policy would encourage the creation of appropriate strategies for conserving the sound heritage of Mexico to ensure access to that part of our identity by all the Mexicans. Moreover, it should foment awareness in the educational sphere of the value of sound documents, and promote the preservation of sound archives.

Mexico's audiovisual stocks are indeed still young: the oldest – UNAM's Film Library – was created in 1964. For their part, video libraries like those of the Directorate General of

Educational Television, Channel 11, Channel 22, TV UNAM, and the National Video Library itself, are still younger authorities that have grown rapidly for reasons particular to the mission of the institution to which they belong. Strictly speaking, however, they still do not have a long-term guarantee for their conditions of preservation.

This situation places us at a clear disadvantage compared with other audio libraries around the world. However, this has begun to change as a result of fact that the Secretariat of Public Education and the National Culture Council, through Radio Educación, have formed a culture of preservation of the country's sound patrimony and taken the first steps towards implementing that State policy I mentioned earlier.

Accordingly, almost six years ago, Radio Educación embarked on a battle in Mexico against the laxity and ignorance that was allowing one of our most valuable legacies to disappear. I believe that we have managed to plant a seed of awareness of the importance of the country's sound and audiovisual patrimony in Mexico. The battle has been fought on various fronts: on one hand, from our studios and broadcasting cabins, with radio programmes broadcasting samples of the world's principal resources, or promoting the culture of preservation of humanity's patrimony of sound; on the other, with the creation of the Mexican Standard of Phonographic Documents, an indispensable tool for the work of cataloguing sound materials from Mexican institutions. Finally, with the organisation of various national and international forums, such as seminars on sound and audiovisual archives.

These actions are joined today by another, which is about to become a tangible reality: the National Sound Library, an institution that will guide the particular policies of the educational and cultural sector aimed at safeguarding the country's sound legacy, and which is an essential part of the National Culture Plan 2001-2006 implemented by the Mexican State to govern its actions in the vast and complex field of national culture. This newly formed institution already has a building to house it: the Casa de Alvarado (so called because it was where Pedro de Alvarado, the famous captain of Hernán Cortés, lived). With a space of over seven thousand square metres, the National Sound Library will be a centre truly dedicated to sound.

The mission of the National Sound Library will be to acquire, preserve and disseminate the nation's sound heritage, so that present and future generations will have access to Mexico's legacy of sound, through the processes of documentation, preservation and conservation. Consequently, the resources of the National Sound Library will comprise voice, music, radio and soundscape collections, as well as the legal depositing of sound recordings published in Mexico. This institution will therefore support a great many activities beyond that of preservation of the patrimony of sound. These will turn it into a living institution, a ceaseless promoter of the culture of sound, through a wide range of activities controlled by a well-planned strategy. The National Sound Library of Mexico will organise various cultural activities in and outside its facilities. One of these will be the exhibition of artistic manifestations related to sound. This area will include the presentation of sound sculptures, as well as performances and installations using sound as the raw material of their work. The National Sound Library will also organise seasons of music, and sound art concerts, for didactic purposes as much as for pure recreation. No less important will be the auditions of various artistic expressions based on sound.

Similarly, the National Sound Library of Mexico will organise rounds of conferences with educational and recreational objectives, with the aim of strengthening the culture of preservation of the sound in a pleasurable and sustained manner.

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Together with these activities, research into sound and its different manifestations, and fields of study, will occupy a privileged position in the new institution. That will broaden this area of knowledge so little explored in Mexico until now.

Such research will have two main guides: science and art. The scientific research will explore not only acoustics but also the history of mentalities, socio-biology, and other related fields. Investigation in this field will be done, using firm, clear foundations, into the value of the nation's sound heritage, and into the scope of sound ecology. At the same time, strategies will be established to enable Mexico's soundscape to be recognised, recovered and disseminated. With regard to the aesthetic directive, the research will be aimed at inquiring into the history, prospects and scope of sound art, an aesthetic expression that has opened up the possibility of treating sound (per se, and not just musical sound) artistically, and that now has more than a century of history, with representative works now forming part of the history of universal art.

Additionally, the National Sound Library of Mexico will have an extensive and concrete programme of printed and electronic publications to enable it to disseminate both the ideas generated within our institution and those coming from outside, so as to breathe new life into our works.

Training, without doubt, occupies a special place because we feel the formation of human resources is one of the tasks vital to preserving sound archives. A national and international programme of courses, workshops, diplomas and seminars on the different fields of conservation, documentation, and preservation of sound will therefore be designed, with the consequent benefit to the people who are interested. This will help us achieve the very necessary formation of professionals in the area of documentation, conservation, restoration and digitisation. IASA will have a leading role in this programme, since its support will be essential to bringing our academic objectives to fruition. However, the National Sound Library will also have other fields enabling it to influence the national stage in Mexico. One of the most important is that of promoting artistic sound experimentation, no longer from the perspective of research, but from that of creation, to produce works of sound art with the involvement of the most distinguished representatives of this manifestation and, in turn, to disseminate much of what has been made in this field of contemporary art. In this sense, the tasks of the Artistic Sound Experimentation Laboratory (LEAS – Spanish acronym), conceived as a space for researching and investigating the possibilities of sound art, will take on particular importance. Moreover, the National Sound Library of Mexico will base part of its actions on the educational and cultural possibilities of sound collections. To do this, it will create a sound stimulation programme with educational and artistic aims directed at children. Furthermore, the educational use of the National Sound Library's sound documents will be promoted in the classroom, with a view to encouraging an appreciation for records of musical and oral memory, and micro-history, among children and young people. In the same way, teachers will be involved in the handling of the sound, acoustic and musical medium in the classroom. Public presentations of sound collections from the National Sound Library will also be promoted.

Additionally, in order to promote the knowledge and use of its resources, the National Sound Library will have a range of access and dissemination services. These will be in various formats, making our institution an informal space for meeting, research and education based on sound.

Among the most important of these are the audio library, both on site and online; the supply of online programming designed according to demand from the various educational centres;



sound experimentation workshops, and electro-acoustic and acoustic music workshops, applied to creative and communicational processes; courses on musical appreciation and radiophonic appreciation; and the exchange of resources.

No less important will be the guided tours, where visitors can have a new experience given the great wealth of sound, and where they can enjoy a marvellous sound garden of over 600 square metres.

It has taken six years of intense work on behalf of Mexico's sound heritage. Every idea, every action, every step has been guided by passion and patience, by imagination and intelligence, but above all by a profound conviction that the conservation of sound memory is our prime commitment to future generations - those who, with other ears, will have to ask us what we did with what has always belonged to them, and what our time sounded like as well as that of bygone ages. Today, more than ever, I feel enormous satisfaction to be part of the birth of a new institution that will strengthen our national identity and at the same time enrich the world's cultural resources.

## **The Digital Archive in the Context of Fully Digital Production**

*Perla Olivia Rodríguez Reséndiz, Fonoteca Nacional, Mexico City, Mexico*

*Paper presented at the IASA Conference 2006, Mexico City, Mexico*

The first radio programme was recorded about 76 years ago and, with it, radio generated the first of thousands of sound documents that are now archived in the sound libraries of radio broadcasters all over the world. Those sounds preserved by sound libraries for more than seven decades constitute one of the most important intangible assets of the world: the heritage of sound.

No other institution in the world produces such a quantity of sound documents. All the languages, every type of music, and the most diverse and contrasting tones, have found a generous communication space in radio, providing testimony of what we have been, what we are, and what we can be.

Public service radio broadcasters have a major responsibility in the safekeeping of our sound memory. Besides being vehicles for information, education and culture, they produce and transmit thousands of sound documents that relate the history and thought of contemporary societies.

One of the most important public service broadcasters in Mexico is Radio Educación. This is a radio station funded by the Secretariat of Public Education, which began the arduous labor of building its sound library in 2001.

The richness of Radio Educación's sound stock may be seen from the following: The voices of artists, intellectuals, poets, writers, and creators of Mexican culture, sifted from radio series, constitute some of its most important collections.

Radio Educación has oral testimony from various social groups in Mexico, which are a key factor in understanding the complex makeup of Mexican society; recordings of concerts and performances of great historic value made in situ, such as the tribute concert to one of Mexico's most distinguished contemporary composers, Maestro Arturo Márquez.

The combination of radio and literature is represented in more than 800 hours of dramatisations of novels, tales, and theatre from Mexican and world literature.

This station's Sound Library has kept, among other things, radio productions that have social, cultural and educational themes bearing witness to the historic processes this country has experienced, and interviews of historic significance representing the opinions and thought of the past.

The uniqueness and originality of the documents forming part of Radio Educación's sound library are other important features worth noting. A large part of these materials was recovered in situ at unrepeatable historic moments and junctures. In short, the library possesses sounds that are irreplaceable because of their artistic characteristics and content.

As a public service broadcaster, Radio Educación used the medium for educational purposes from the outset. One of the most significant series in this respect was Primary Radio, produced in 1969.

Though the importance of sound libraries around the world is recognised, the situation in which radio archives find themselves is not the same. Whereas there are sound libraries

that do have adequate conditions of conservation and have digitised practically all their sound documents, there are others in which thousands of hours have been erased owing to a lack of knowledge and awareness of the value of the radio programme after it has been broadcast.

This contrasting situation of the world's radio sound libraries looks set to change with the imminent transition from analogue to digital technology. In Mexico we are on the threshold of the incorporation of digital radio, and with it a new medium that will change radically the conception of the radiophonic medium as we know it. It is in this context that the value of radio sound archives is being redefined.

That is why I now have the honour of sharing with you the results of one of the most important projects implemented by a public service radiobroadcaster such as Radio Educación, a station funded by the Secretariat of Public Education.

This project could be defined as a race against time. A race not only to preserve and recover part of Mexico's educational and cultural sound history, but to lay the groundwork for what would be the backbone of a digital production system.

The Digital Mass Management and Storage System is a preservation strategy formed by two main areas: the cataloguing of radiophonic programmes, and the transferral of sound content on analogue media to a digital platform.

Cataloguing of radio programmes is one of the greatest challenges a radio station encounters when contemplating the establishment of sound preservation strategies on digital platforms.

In this situation, paradoxically, the new digital media require the incorporation of new digital content. In addition, the radiophonic medium is now characterised by the production, transmission and exchange of digital content that has been identified correctly using metadata.

Metadata are the essence of any digital mass management and storage system. If we do not have the contents of a production identified properly, it cannot be reused and become part of a bank of sound documents.

At Radio Educación we have completed the first level of cataloguing of more than 22 thousand documents, which we can access as a result of this arduous work carried out by the station's sound library and production team. We can proudly announce that we are able to recognise and recover a significant part of the station's archive.

Parallel to the cataloguing, the digitisation of the station's sound stock has been started. Through digitisation, the contents of an analogue medium were transferred to a digital medium, and with this, thousands of programmes recorded since the end of the sixties can now be listened to again.

The digitisation has been carried out in accordance with the parameters recommended by the IASA in its TC-04 publication<sup>1</sup>. The digitisation of Radio Educación's sound stock was done at a resolution of 48 kHz and 24 bits in the BWF format, in accordance with specification 3285 of the European Broadcasting Union.

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<sup>1</sup> Bradley, Kevin (ed.), Guidelines on the Production and Preservation of Digital Objects, IASA-TC 04, South Africa, 2004

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At the moment, Radio Educación has four digitisation stations, each capable of digitising four reel-to-reel tapes at the same time. Each feed station is able to digitise, monitor and evaluate simultaneously up to four channels of stereo audio, thereby speeding up the process of technological transfer.

The mass digitisation of the Radio Education archive is a measure that will provide the broadcaster with digital content that could be used for research in future productions, as well as materials to feed the multiple digital channels that are opening up in the new audiovisual media.

For digital storage, the following variables were considered: Each digital file is checked to make sure it is free from errors, thereby certifying the integrity of its data. If a digital file presents significant errors, a new copy is created.

Migration, of both the metadata and the digitised sound documents, is a condition that characterises the Digital Mass Management and Storage System, therefore this system has to be updated continually.

As for the security of the digital file, it is vital to keep at least two copies of each file and use additional copies whenever needed, as recommended by IASA experts. In order to improve the security of the system, the copies should be stored at different locations.

Radio Educación has six servers, housing different applications and processes of the system; a hard drive storage of 4.5 TB for storing digital audio files in low resolution; and a near onlinestorage of 28.5 TB for the high resolution audio files. It should be mentioned that the entire platform is upgradeable.

The conceptualisation of the Digital Mass Management and Storage System was developed from the idea that it was necessary for this project to form part of the workflow of a radio station. Put simply, it should not be an isolated project and should respond in the future to the production and transmission needs of a digital public service radio broadcaster.

For this reason, another variable that determined the development of the Digital Mass Management and Storage System consisted of establishing the flow and management of digital content. Thus a new set of processes and a fundamental concept are incorporated into the dynamic of radio work: the management of digital content. The management of digital content is determined by digital radio production, and by the metadata that have been incorporated from this into the cataloguing process. In this sense, managing content means more than a database administration system; it implies the process by which digital documents are stored, exchanged and distributed.

The data management system has to be flexible, robust and reliable because, as a collaborative system, its vulnerability to the introduction of information unrelated to the normal workflow could affect the main objective of management.

### **Broadcasting and Access**

The digitisation of sound stock is quite clearly a conservation measure, but it also creates the potential for this new digital sound bank to have other possibilities of access and broadcasting for daily users, through the design of added services and products of sound information.

Looking at the creation of a Digital Mass Management and Storage System forces us to think about how the functions of the traditional are redefined, and about other possibilities it offers:

### Time

The time taken to use and consult the material in the sound library is optimised. The documents are available continuously, 24 hours a day, all year round. This feature will be extremely useful for radiophonic creators working remotely.

### Space

The space for consulting the archive is changed. Online consultation means several people can have access to the same document at the same time, without the need to be on site. Moreover, the space allocated for storage decreases. The robotised bookshelf is therefore a substitute for thousands of linear metres of shelving.

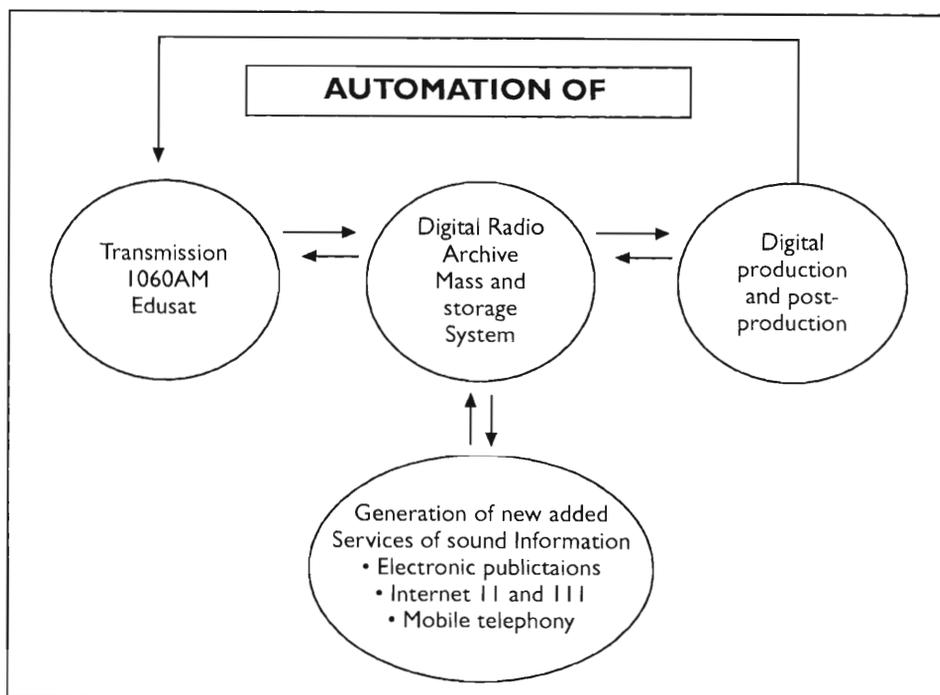
### Access

Regarding access, remote consultation without intermediaries over the Internet is a new feature at the service of internal and external users.

Another important feature is the possibility of adding complementary data to the digital sound content to enhance the documentary content.

The archive is therefore resized, and the number of consults increases.

The Digital Mass Management and Storage System is the point of departure for the creation of a comprehensive digital production model. In other words, the sound library, which for many years was a space for 'tape storage' will be the axis for the process of radiophonic production.



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In the fully digital production model, all the process that for many years were carried out independently are now interrelated and converge through the management of content and digital mass storage.

The transferral from analogue to digital media of the programmes Radio Educación has been producing for over thirty years is, above all, a measure that guarantees the preservation of a fundamental part of Mexico's sound heritage.

At the moment, Radio Educación has over ten thousand digitised documents that are a testament to a style of radio production at a public broadcaster for more than four decades, allowing us to listen to programmes, including radio dramas, series on history, science, social and political topics, children's programmes, popular music, and concerts.

The Digital Mass Management and Storage System of the Radio Educación Sound Library is a measure for preservation and a response to irrevocable technological obsolescence. At the same time, it signifies a prospective gamble in the face of technological convergence and the birth of new media.

Finally, I would like to stress that another of the most relevant features of this project is that it is being carried out at a public service broadcaster: Radio Educación. Furthermore, it is not an isolated project; instead, it forms part of an entire concept and vision of what public service radio should be in the future. Lastly, it is important to recognise that the Radio Educación archive is laying the foundations of what in the next few years will be part of the great map of hypermedia content, supplying routes of educational and cultural content aimed at the digital society, which will one day be erected as a society of knowledge.

## The National University and the Safeguard of the Audiovisual Heritage

*Fernando J. Álvarez del Castillo Astiazarán, Director General, Radio UNAM, Mexico*

*Paper presented at the IASA Conference 2006, Mexico City, Mexico and translated by Tanya Huntington*

It is a great honor for me to have this opportunity to share with you some ideas about early recorded sound at the Alejandro Gomez Arias Audio Library of the National Autonomous University of Mexico (UNAM).

One night, back in the year 1877, the President of the United States couldn't believe his eyes - or ears. A metallic box sitting there on a table in the White House Oval Office was speaking to him. Even though it was past midnight, President Rutherford Hayes insisted on waking up his wife and their houseguests so that they could hear this new contraption. The man who'd brought him the talking box wasn't allowed to go home until 3:30 in the morning.

That man was Thomas Alva Edison, already widely acclaimed for his first patented invention, a vote counting apparatus. He had just made the dream so dearly treasured by men come true: to build a device capable of reproducing the human voice. For the first time, great musical interpretations and the words of famous people could be recorded for posterity. Edison had managed to create a machine capable of recording and reproducing de sound.

Edison was already a well-known inventor by the time he was thirty years old. His schoolteachers back in Port Huron, Michigan, found him rather odd because he was partly deaf. He remained in school no mere than three months; after that, his mother took over his education, successfully cultivating the boy's interest in engineering and physics.

When a device becomes famous, the justifications for having invented it tend to multiply. In the case of the "talking machine", we can affirm beyond a reasonable doubt that the first person to build such a machine, capable of successfully recording and reproducing sound, was Thomas Alva Edison (1847-1931). After he'd saved a little boy from being run over by a train, a grateful father taught Edison to use Morse code. While experimenting with a machine that could transcribe telegraphs on perforated paper, he noted that under certain conditions, his telegrams produced a murmuring similar to the human voice. Twenty years earlier, around 1857, a French man called Edouard-León Scott de Martinville had found a way to record a few simple sounds. Thus Edison was able to combine the principle of the French invention with his own "talking machine".

Edison originally recorded sound on a roller covered with tin, but none of the original tinfoil has survived in a condition allowing reproduction. Fifty years later, after Edison had retraced his own steps and repeated the first words he'd recorded – this time on a wax-coated cylinder- the new and improved phonograph was ready. By then, Edison was feeling the heat from other scientists who were working on similar machines.

It is known that Edison's first recordings were of the voice of Josef Hofmann, a child prodigy on his first visit to the United States. But this recording no longer exists: what we have instead is Edison making this brief comment.

It would seem that the earliest authentic musical sound to survive is that of a cylinder recorded in Vienna in 1889 by none other than the German compose Johannes Brahms (1833-1987). When listen to it now, even with the aid of modern technology, it isn't easy to recognize what we're hearing. First we perceive a few, scarcely perceptible words, possibly: "Ladies and gentlemen, I am Theo Wangemann". Then: "Haus von Herrn Dr. Fellingner, I am

Dr. Brahms, Johannes Brahms". Then Brahms at the piano, interpreting the finale of his Hungarian Dance No. 1 in G minor. This recording, as I've already mentioned, is from the year 1889.

Commercially speaking, the machine was well-suited to the public's wishes. However, despite the high demand there were in musical terms, it was impossible to duplicate cylinders without repeating the interpretation over and over again through a battery of equipment. Moreover, these repeated reproductions wore out the original recordings made on cylinders that were both voluminous and fragile.

Among the waves of immigrants who came to the United States seeking fame and fortune, or at the very least employment and security, was Emile Berliner (1851-1929). Berliner left Hanover and reached the United States on May 11, 1870. In the beginning, he made a living doing several odd jobs while studying in his free time. In 1875, he reached New York. Still a penniless drifter, he soon found work in the laboratories of the man who discovered saccharine, Doctor Constantine Fahlberg. Thanks to his studies in his free time, Berliner was able to invent an improved microphone that he managed to sell to the Bell Telephone Company. With his gains, he financed his own experiments in recorded sound. Following the research of Charles Cross, he recorded a flat disc in 1888. His discs had two clear advantages over Edison's cylinders. First: a great deal of copies could be produced *en masse* from the original recording. Second, the groove in this disc was much deeper than what was possible with Edison's cylinder. Therefore the groove itself could guide the needle, whereas for reproduction on Edison's equipment, a complicated mechanism of screws and required. This made the devices that Berliner himself called "gramophones" simpler and therefore, cheaper.

The first records produced by Berliner were discs 3 1/2 inches in diameter made by a button manufacturer and installed in small talking dolls: the first talking dolls.

Near 1890, 5-inch discs were produced for hand-operated gramophones in order to record speeches, given that the mechanism for music was still highly unreliable.

After one year in New York, Berliner moved to Washington, where he took up residence in the third floor of a boarding house. There he set up his laboratory and within a year, he'd developed a new kind of transmitter that provided clearer sound, increasing the range of telephone receivers from 2.5 to 30 miles. The Bell Telephone Company paid him \$75,000.00 and promised him \$5,000.00 a year for the rights. Berliner invested the money in an enormous house built of brick and stone in Columbia Heights, two miles north of the White House. There he set up his laboratory, and there the industry of recorded sound was born. As the quality of sound was quite deficient, Emile Berliner felt it wise to add a copy of the text on the flip side of the recorded disc.

With these three examples I've presented to you, I would like to highlight the importance of the origin, transcendence and conservation of audio materials; as well as the fact that, once sound has been recorded, it can be lost if the medium that preserves it is in no condition to be reproduced. We are often overwhelmed by technology because the dizzying pace of change can bring with it new standards of living to which we become quickly accustomed. But in the end, as long as technology is at the service of human beings, it must respond to needs and conditions imposed by economic and personal interests. The fact that something can't be done today doesn't mean it never will be. Let us not forget that this sensory stimulus known as audio was immortalized for all intents and purposes just 120 years ago.

*“Let the voice of the University through the centuries be heard once again, the labors of its student body, its doctors, its lawyers, its engineers, its faculty members, all those who serve our country and for whom the University provides hope by trying to set an example... (The University) has a vast program of cultural diffusion via radio... not just nationwide, but abroad as well... I send our regards to academic communities in rural areas. We address them in order to convey the latest scientific data, the voices of our best professors, the most outstanding and refined bibliographies. Our stations will serve the nation by exchanging tendencies of all ideologies, given that our task is to provide the utmost service to classes that cannot be held here. We are, thus, at service of culture and at the service of art.*

*... the means of this new service, through teaching and art, (will) attempt to dignify music, rather than vilify it... (Radio) turns against man by broadcasting music that degenerates and degrades. Therefore, university stations will transmit the great musical works of all time and also the anonymous melodies of the people, harmonious and crystal-clear whenever they are authentic”.*

This is a portion of the inaugural speech of National University Radio, founded 69 years ago.

When Radio UNAM, as we call it today, came into being, there were no cultural broadcasting stations in Mexico, much less university stations. Thus, certain doubts arose from the start at the station regarding which model and goals should be established. Through these words, you will find the profile of Radio UNAM and, in many ways, the nature and content of its phonographic archives.

With an AM transmitter of a mere 5000 watts on the XEXX 1170 Kilocycle frequency and 4 hours of daily morning broadcasting, Radio UNAM became a cultural option residents of downtown Mexico City could tune into, transmitted from the former San Ildefonso College, where the National Preparatory School was housed at the time. After a few months on the air, proud reports rolled in, confirming the reception of a strong, clear signal in Cuba... Brazil... Chile... not to mention the intersection between Argentina and Justo Sierra (that is to say, not the countries, but the streets named after them).

It wasn't long before the radio station began consolidating its profile while at the same time constituting a pluralistic, participative audience. Therefore, from the start, Radio UNAM has owed and given everything to its public. The move in 1957 on campus to a building especially designed for radio allowed it to fortify and expand. By then it was a station broadcasting the same programs 18 hours a day on three different frequencies: AM, FM and OC. During those marvelous years (1957-1976), Radio UNAM opened its microphones to the participation of extraordinary Mexican and foreign intellectuals. It was thanks to the acquisition in 1957 of an “Ampex” reel-to-reel that the broadcasting station began prerecording its programs and, as a result, collecting its first phonographic tapes, including the programs “20th century poets, a capricious anthology” produced by Octavio Paz and French artist Pierre Comte, or “The Beautiful People”, a theater piece by William Saroyan directed by Juan José Gurrola.

Through the collaboration of Gabriel García Márquez, Octavio Paz, Salvador Elizondo, Luis Cardoza y Aragón, Jesús Bal y Gay, Carlos Fuentes, Juan García Ponce, Alfonso Reyes, José Luis Ibañez, Alaide Foppa, Raquel Tibol, Juan Rulfo, Fernando Benítez, Colombia Moya, Carlos Monsiváis, Elena Poniatowska, Ricardo Guerra, Tomás Segovia, Héctor Mendoza, Miguel León Portilla, José Emilio Pacheco, Tomás Mojarro, Margo Glantz, Rosario Castellanos and a long etcétera, to which we might add the voices of Oscar Chávez, Claudio Obregón, Gastón Melo, Ana Ofelia Murgía, Juan López Moctezuma, Sergio de Alba, Aurora Molina, Eduardo Lizalde

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and Ofelia Guilmain, Radio UNAM not only became the most important cultural reserve in the country, but also a model to be followed by all cultural and university radio stations that emerged during the sixties in Mexico, or in later years across Latin America. The quality of these contributors and their programs acted once again to strengthen the pluralistic profile of the radio station and also to define the profile of its students, teachers, researchers, administrative personnel, staff, freelance, University alumni and the general public. Radio that fulfills, moreover, the third substantial mandate of the University: cultural diffusion.

The Radio UNAM Audio Library, named after Alejandro Gómez Arias as a tribute to the station's founder, came into being as a collection in 1987 during the ceremony commemorating the station's 50<sup>th</sup> anniversary. The compilation, registration and cataloguing of magnetophonic material have led to substantial progress in audio research, exchange and recovery. There we can find the cultural testimony of the National University, as well as important episodes that form part of contemporary Mexican history. As is to be expected, the archives are structured in keeping with the profile of the broadcaster, its programming and its public. The collection boasts a wide repertory of Mexican and Latin American folklore music, jazz, tango, radio theater, political analysis, philosophy, numerous language courses and major eyewitness accounts of the events of 1968, or the university congress held in 1968 and 1987. I would like to take this opportunity to mention the noteworthy collection "The voice of Mexico, live" and, in later years, "The Voice of Latin America". This project, carried out between the Literature Department and Radio UNAM, began in the late 1950's with the intention to preserve the voices of major writers and poets by having them read some of their works. This collection, which now forms part of the UNESCO Memory of the World Registry, complies the voices of the most prominent Mexican and Latin American poets and writers of the second half of the 20<sup>th</sup> century.

Due to the scarcity of magnetophonic material, at first very rigorous selection criteria were adopted in order to preserve some tapes and erase others. Later on, with the growth of radio, these criteria became more lax and the collection increased considerably, quickly exhausting the area designated for storage. I must point out here that from the seventies to the eighties, Radio UNAM recorded a great deal of its LP collection reel-to-reel in order to provide the best possible conservation and to achieve clearer reproduction on the air. These source recordings became famous throughout the radio industry.

Today, the collection total over 130,000 entries, equivalent to approximately 80,000 hours in different media, including open reel tapes, cartridges, cassettes, dats, minidisks and compact discs. Thanks to the initiative of Dr. Juan Ramón de la Fuente, our current University President, today the collection is housed in a vault, temperature and humidity controlled and smoke detectors and security systems have been installed. It is located in the Palace of Autonomy, a building in historic downtown Mexico City that dates back to the year 1910. For the past two years, in an area next to the vault, automated tasks of cataloguing, classification and digitalization have been carried out; allowing us to recover the information contained in these materials through documentary analysis and cross-data entry. The integrated system developed for these operations is known as Sonounam.

The cataloguing and classification procedures take place in mark format on a data entry sheet designed by the Radio UNAM Sound Library department itself, in keeping with the specific demands of radio. Our cataloguing program is Aleph, allowing us to network with the UNAM General Library Division and, of course, with other similar institutions abroad. The procedures for audio migration are mainly achieved with Revox and Tascam brand open reel-to-reel recorders. The sound is transferred to computers with professional Digigram audio cards



installed via an Adobe Audition audio processor, and from there to the server. We try to recover sound as close as possible to the original, because the more original, the pure it is. However, when audio does require reconstruction, this is accomplished for future reuse.

During the period 1978 to 1992, the UNAM Radio Sound Library underwent considerable depletion given the economic situation in Mexico, which imposed general changes in terms of how the importation of various products was restricted and controlled. One of these restrictions applied to magnetophone tapes, confronting the radio authorities with a terrible dilemma: either broadcast live given that back then, with the exception of news programs and UNAM orchestra concerts, all programs were prerecorded or erase tapes for reuse, with the subsequent loss of information contained therein. In the beginning, the first option was taken; but eventually numerous tapes were erased. As the importation of materials became more frequent at more accessible prices, it was decided that a considerable quantity of the material be recorded on cassette. This allows us to register contents, but discards any possibility of professional use. Those days are gone, and today all programs are registered on compact discs, whether live or prerecorded.

Radio UNAM carries on its three frequencies and eight stations different programming: 29 live and 66 prerecorded programs, all backed up on CD and subsequently analyzed for cataloguing and classification.

Human beings have always felt the need to preserve important, special, meaningful moments in their lives. Thanks to this need, we can understand, imagine or even recreate past times with a fair amount of certainty. Cave paintings are a primitive example of this. Careful observation reveals that by commemorating a hunt or an animal, so-called primitive man is recovering an emotional moment in his life, an extraordinary event that breaks out of the daily routine. The quest to preserve, conserve and improve memory is a human perspective, a need not only to keep memory alive, but also to channel emotions and make time stand still; there is also an attempt to stall the aging process. And yet ironically, today we aren't capable of producing images that will last as long as those cave paintings.

We try to keep and conserve all that interests us, has an impact on us, seeking out methods that are increasingly permanent in doing so. Civilizations have always preserved representative objects from daily life. Today, we consider many of these to be works of art.

Throughout the centuries, artists have set down the vision of their age. Painting is a magnificent example of this: portraiture, landscapes. In our time, sound is another element that can strengthen a faithful reconstruction of the past, adding objectivity and certainty to the process. Therefore, conservation is both important and necessary. Today, we can even speak of soundscapes, the possibility of gathering the sounds that surround us and form part of our daily lives in a specific time and place.

An example is a 17<sup>th</sup> century English work called *Cries of London* by composer Richard Dering. Dering became interested in compiling for this magnificent piece the sounds of a London marketplace. The composition transports us through time and positions us, thanks to the magic of music and sound, inside a market filled with vendors hawking their products, as well as compulsive shoppers throwing themselves at the merchandise. This is, perhaps, the earliest example of a soundscape.

Which brings us to reflect, albeit momentarily, on the human condition: its physical and sensory characteristics. Before there were words, human beings had voices; a set of sounds, noises, complaints and moans that in the time became words, giving a rise to primitive

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expressions. Words then adopted the inflections of voices and, thereby, personality traits. The identity of a voice is like that of the iris, or a fingerprint. But neither fingerprints modulate, or intone, therefore the voice has a great capacity for expression and becomes a personal identity trait as only the face can be. There are agreeable faces and agreeable voices, but it is always the voice that sparks our imagination. Listening to a voice for the first time, either on the telephone or on the radio, is a way of getting to know the one who possesses it and discover new facets of his or her personality.

A sound library is, among other things, an acoustic gallery, just as an art museum is a collection of paintings that allows us to complement and thereby enrich our information about people or events. Unlike the art collection, technology gives us the opportunity to reproduce audio at an ever higher level of quality. I believe this is the time to strengthen policies that propitiate and facilitate the exchange of materials. Thus our own archives will find wider sponsorship and as a result, protection. Of course, we will be placing at the public's disposition a greater number of recordings so that more people can listen to them more often in more places. Finally, we will be supporting cultural exchange.

Now let us ask ourselves at what moment man first wished to record the sounds of his time. The Greeks would have liked to preserve the voices of Aristotle, or Plato, through and *agora*. Some of those who heard Monteverdi's *Orpheus*, which premiered in 1607, may have momentarily lamented the fact that those wonderful sounds would be lost forever... or perhaps they simply understood that, as music is the art of time it "abs in its nature to be born and die... Certainly none of this can ever be recovered. Today, on the other hand, the possibility is within our grasp to preserve it all. Therefore we must maintain the desire to do it so, while at the same time carefully and intelligently prioritizing all that is truly worthwhile. Generating such criteria is always difficult and risky, but we cannot elude that responsibility. Let us recall that information is not knowledge, that knowledge is not culture, and that culture is not wisdom. Sounds speak for themselves: they are also ambience, landscape, testimony and consciousness, no matter whether they are voices, noise or music.

Therefore we must always consider conserving all sound that will continue to be, among other things, a painting of the imagination.

### **From the Concert Hall to the Library Portal**

Marie-Hélène Serra and Rodolphe Bailly, *Médiathèque de la Cité de la Musique, France*

*The following is a written transcription of a presentation made at the IASA 2006 conference in Mexico City, Mexico*

Since the conference theme for the 2006 IASA Annual Conference is 'The educative and cultural meaning of the audiovisual archives', we will be looking at an actual example of how to disseminate and exploit a sound collection used within the framework of a cultural and educational project, for people with a passing or strong interest in music.

The audio archives in question are recordings of concerts that took place in the concert halls of the *Cité de la Musique* in Paris. These archives are now available on the Internet portal of the *Cité's Media Library*.

We will be taking a complete look at how we designed the project, and include documentation, educational and technical aspects.

The *Cité de la Musique* is located in Paris, France. In operation since 1995, the *Cité de la Musique* is a fairly recent cultural establishment. It can be considered as a classic example of the major cultural democratisation projects that took place in France during the eighties and nineties.

The *Cité de la Musique* has three core functions: music performances in two concert halls; music heritage in the Music Museum; and lastly, education, as the Education Department and the Media Library, have as its mission to provide the general public as well as professional musicians, teachers, and instrument makers with information and documentation services. The Media Library only opened in 2005.

One of the major aspects of the project has been the creation of new services for music lovers by taking advantage of the live concert hall recordings which, four years ago, were still 'sleeping' in the archives room. The idea was to build an educational environment based on music listening and accessibility through the Media library portal.

The question was how to make the best use of the collection of recordings, bearing in mind, firstly, that one of the goals is to help music lovers develop their musical culture; secondly, that another goal is to get young people listening to music other than the popular mainstream; and thirdly, that the *Cité de la Musique's* general goal is to encourage cultivated citizens, art lovers, with an awareness and perceptive outlook to music.

Thus, the future system should help users develop a well documented and intelligent listening approach, enabling them to train their ear for better listening, and to acquire the knowledge required for understanding music.

The changes in listening lifestyle (Internet, iPod, etc.) had to be taken into consideration, as well as the educational potential of multimedia technologies.

This first part of this paper will describe the collection itself, the different modes of access proposed – we'll talk about the idea of a documented listening that we have carried out – how we used the collection for educational purposes, and finally how we dealt with the copyright issue. The second part will look at the technical insights of the information system, first its architecture, then the IPR management.

Our extensive collection of concert recordings reflects the diversity of the music programmes that have succeeded each other since the *Cité de la Musique* was created in 1995. Our concert halls host symphonic orchestras, baroque and ancient music, as well as jazz groups and traditional musicians.

Our current stock consists of 1 000 audio recordings and 140 video recordings of concerts. About 150 audio and 10 video recordings are added each year. The recorded music can be broken down into four major categories: classical/contemporary music, jazz, traditional and world music, and variety music.

The *Cité* began to digitise, catalogue, and make the contents of its archives available online on the library portal in 2003. Today, about 600 concerts are available online, containing 4 000 musical works.

Now, let's look at the various means of access the system offers. We will be looking at how a user can search for, retrieve, and play music.

The system offers three options:

a) The first is to run an ordinary search. Let's switch to the portal ([www.mediatheque.cite-musique.fr](http://www.mediatheque.cite-musique.fr)). The user simply types in the search criteria, which could be the concert title, the title of a musical work, a performer's or a composer's name, a given period or musical genre, a keyword, etc. Let's type in the keyword 'Japan'.

The system returns a list of results with brief descriptions.

The screenshot shows a web browser window with the URL <http://mediatheque.cite-musique.fr/musc/>. The page title is "Médiathèque de la Cité de la musique, Paris - Microsoft Internet Explorer". The search results are displayed in a table with the following entries:

Image	Description
	1) Les Maîtres de musique - La Nôte japonaise - concert enregistré à la Cité de la musique le samedi 18 janvier 1997 (16h30, amphithéâtre) / Katsura Naokiyo, shakuhachi - Paris : Cité de la musique, 1997 - 1h 8 min 5 sec
	2) Naga-Uta. Chant et musique kabuki : concert enregistré à la Cité de la musique le 20 octobre 1996 / Isabelle Soulard, réal. ; Kinoya Naokichi ; Kinoya Katsukuni, shamisen ; ensemble Kinoya - Paris : Cité de la musique, 1996 - 1 h 12
	3) Kurama-Yama (1856) / Kinoya Naokichi ; Kinoya Katsukuni, shamisen ; Kinoya - Paris : Cité de la musique, 1996 - 15 min 15
	4) Nwaka-Yishi (1834) / Kinoya Naokichi ; Kinoya Katsukuni, shamisen ; Kinoya - Paris : Cité de la musique, 1996 - 15 min 52
	5) Reime (1931) / Kinoya Naokichi ; Kinoya Katsukuni, shamisen ; Kinoya - Paris : Cité de la musique, 1996 - 11 min 05
	6) Ninn-Wankyû / Kinoya Naokichi ; Kinoya Katsukuni, shamisen ; Kinoya - Paris : Cité de la musique, 1996 - 11 min 15
	7) Nagauta : chant et musique kabuki - concert enregistré à la Cité de la musique le dimanche 20 octobre 1996 (16h30, salle des concerts) / Ensemble Kinoya - Paris : Cité de la musique, 1996 - 1h 12 min

On the right side of the page, there is a detailed view for the selected result (Naga-Uta), including a "Programme" section listing works like Kurama-Yama (1856) and Nwaka-Yishi (1834), and a list of performers: Kinoya Naokichi, Kinoya Katsukuni, and shamisen.

Fig. 1: List of Results

Let's select the second item. Here we have the complete record for the selected item. It is a video archive from 1996 showing *kabuki* musicians.

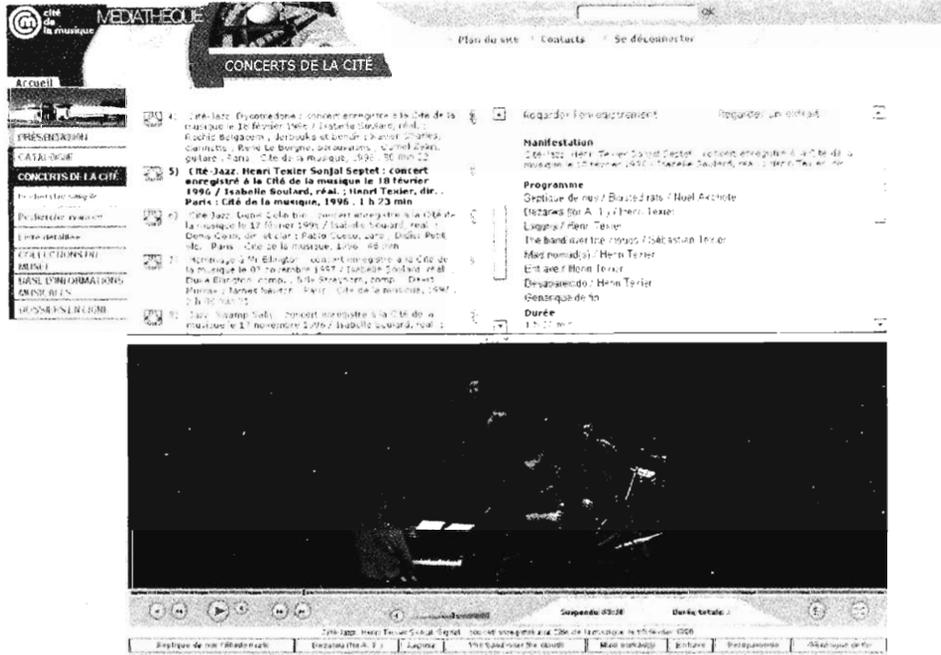
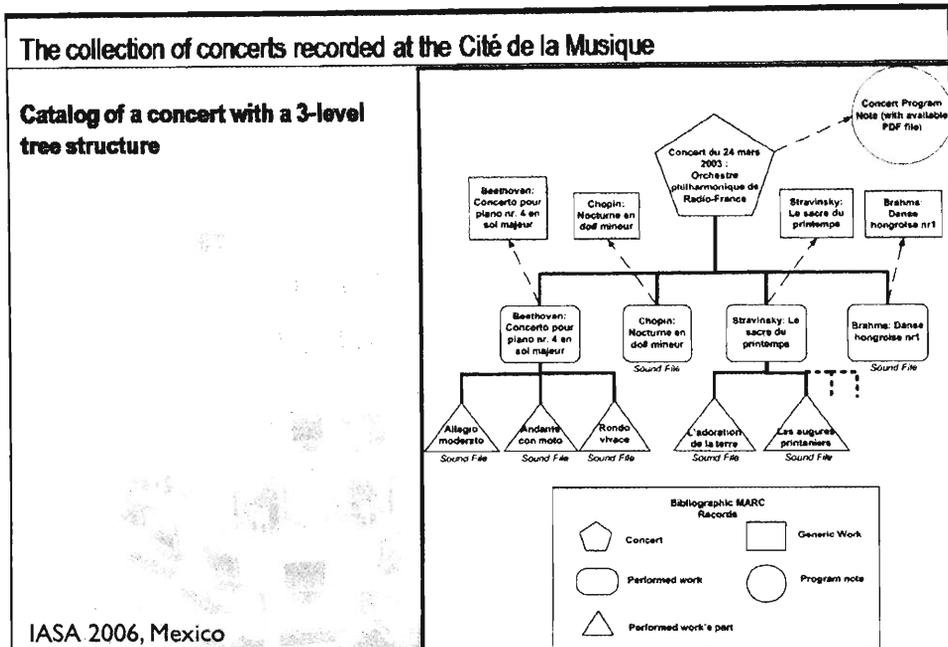


Fig. 2: Complete Record for the Selected Item

We use a special player, which displays information about the concert and the works it contains.

The user can display the programme notes handed out to the public at the concert. We can listen to the music and at the same time read the lyrics with the translation.

Associating the listening with the reading of the programme notes is the first step towards documented listening.



**Fig. 3: Three-level Tree Structure**

In order to let the user retrieve either an entire concert, or a specific work, or part of a work, the description of the concerts in the database uses a three-level tree structure, as shown in Fig. 3. The concert database is part of the library catalogue.

The concert is described in the top record; it is linked to children's records describing the works performed during it; each child's record can be further linked to grandchildren's records with information on parts of the work. Here we have three concerto movements.

As you can see in the diagram, the record of a performed work is linked to the record of the generic work to which it corresponds.

b) The second possibility of access is to run a search using the musical work as the criterion.

Let's type in 'Beethoven symphony'.

If one would type 'Beethoven symphony', the interface will return a list of nine musical works. If one would click on symphony number six, detailed information about the work itself, the generic work, is shown, which is not a document but a conceptual object.

The system also informs the user on all the documents (online or not) that are related to this generic work : two audio recordings of concerts, several audio CDs, one score, and one book. The user is able to listen to the performed work.

Once again, the user can play the audio while following the score the user found in the library. From a technical point of view, this type of search is based on a data structure close to the FRBR model. It is a simplified version of FRBR that allows the user to see quickly the different 'manifestations' of a work.

c) The third option is to use the detailed list of recorded concerts and works, comparable with iPod interfaces. The advantage of this type of access is that different performances of the same work can be compared.

The portal has been developed to become a real educational tool for young people and music lovers. As we said in the introduction, the general idea is to generate new users, so that the user first develops general music culture, and then a good level of listening technique.

Two main approaches were identified:

Firstly, the cultural approach. It consists of the user reading the introductory texts written by musicologists specialising in the repertoires of the various collections (classical and contemporary; jazz; traditional and world music). These texts are illustrated by music samples taken from the collection. For instance, the baroque file where we found a general overview of the baroque style, the Italian style, the French style illustrated a Rameau piece, '*Le rappel des oiseaux*', taken from the collection.

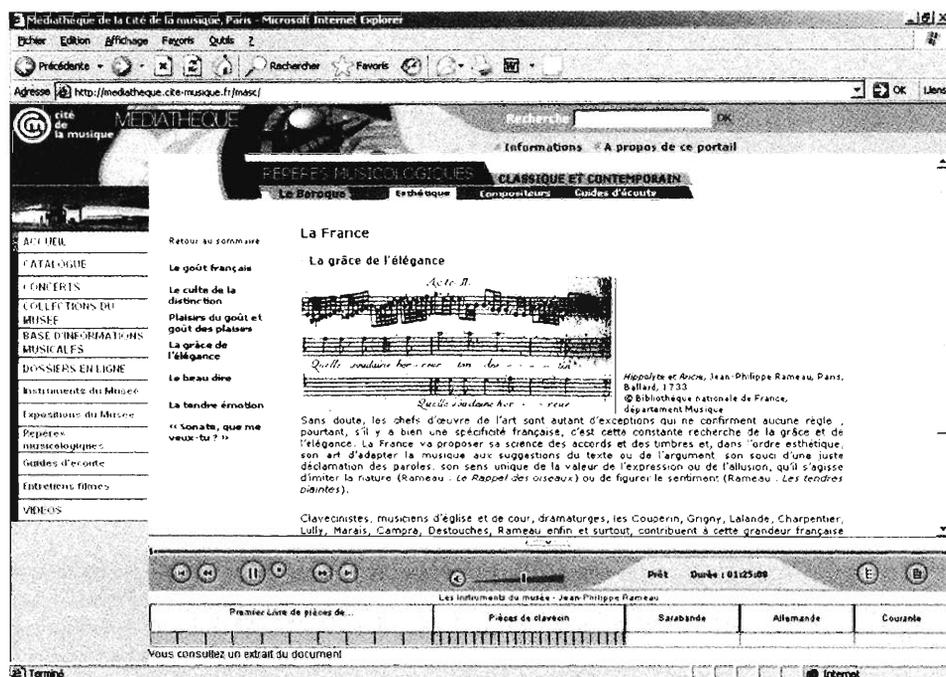


Fig. 4: An Example of Traditional Music

Another example is traditional music. The presentation of the calypso genre is illustrated by a recent recording of a Steelband from Trinidad.

A special tool was developed to create links easily from these texts to our audio and video resources.

Secondly, the analytical approach, based on music analysis techniques in music schools. These analytical tools are referred to as listening guides. They are used to discover progressively the fundamental characteristics of musical languages.

Let's have a quick glance at a jazz example:

The screenshot shows a web page from 'Cité de la musique' with the following elements:

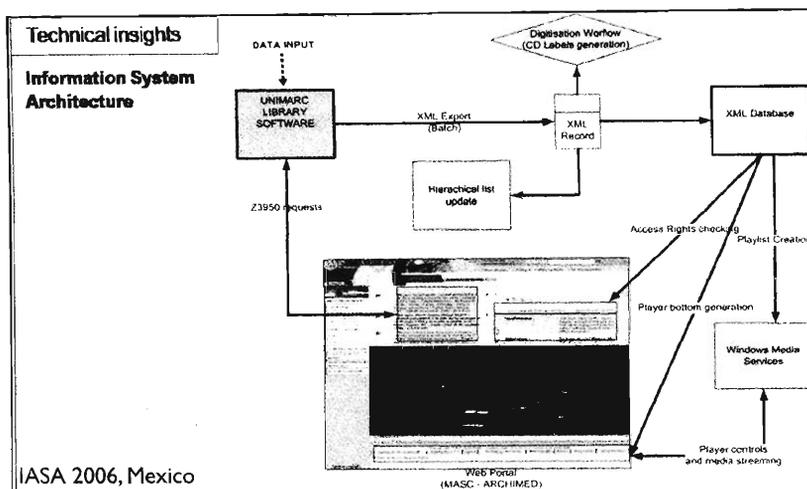
- Navigation:** Accueil, Plan du site, Contacts, Se déconnecter.
- Table of Contents:** A grid of numbered links (01-08) for different sections.
- Section Header:** 'Big Band de David Murray et James Newton, Such Sweet Thunder'.
- Text:** 'Cet enregistrement a été réalisé à la Cité de la musique le vendredi 4 novembre 1997. Hommage à Nr Ellington : inédits de Duke Ellington et de Billy Strayhorn'.
- List of Topics:**
  - L'œuvre
  - La structure
  - L'interprétation
- Musical Notation:** Three staves of music in treble clef with a key signature of one flat.
- Chords:** A sequence of chords: G, C7, G, D7, C7, G, G, Am, D7, G, G.
- Text Block:** A paragraph starting with 'Le contraste est cependant...' and another starting with 'A la brève suite...'.
- Image:** A dark, square image placeholder at the bottom right.

Fig. 5: A Jazz Example

We have developed synchronization software to simplify these techniques by linking comments made by a musicologist to the recording, which could be audio or video, the score, or notation elements.

To conclude this second part, the collection of recorded concerts is also a means of providing the public with educational tools that we publish on the portal as long as we have the rights to do so.

This brings us to the copyright issue. Our philosophy is to provide as much music and educational content as we can on the Internet. But, with regard of copyright, we have in fact three levels of access: the Intranet (in the library) with the complete collection at our disposal; the Extranet for external public institutions with most of the collection available; and the Internet, with only part of the collection (excerpts of concerts, no listening guides) available.



**Fig. 6: Information System Architecture**

Now, let's look at some technical aspects of our system:

This diagram shows the main components of the information system architecture. It reveals the articulation between the description side, based on cataloguing tasks, and the dissemination side. We can follow the processing of sound and audiovisual recordings, from the descriptive data input to the online consultation.

The librarians enter the data about the concerts into the library software, using the three-level model that we have shown. This is the only point in the system at which information is manually added. The new records of concerts are exported from the library software as XML records, using a schema similar to MARC-ML automatically. This XML record will then be processed by XSLTs, in order to do the following:

- Design the labels for the preservation storage media (e.g. CD, DVD)
- Update the detailed list of concerts
- Isolate the information to be imported into the XML database

Parts of the record are then imported into the XML database, where additional information is generated. Indeed, the XML database contains all the metadata needed to manage the dissemination of our legally protected collection.

When the user searches the catalogue, the system sends Z3950 requests to the library software. When the user asks for a detailed record, the system looks into the XML database to see whether the user is authorised to access the digital resource before displaying the record.

When the user wants to listen to the concert, the XML database generates a playlist necessary to play the given resource. The playlist is the ordered sequence of audio files that represents the concert.

The system must be able to control access to the archives, which are protected by law. It needs to know if a given archive is accessible to a given user. Therefore, each archive has its own contract (in a particular field of its record), describing the particular access rules. For instance, an access rule may be 'an anonymous user from the Internet gets an extract of the archive'.

## Preservation and Peril, Access and Availability: The Impact of US Copyright Law on Audio Archives

Katie McCormick, J Murrey Atkins Library, University of North Carolina, USA  
Paper presented at the IASA Conference 2006, Mexico City, Mexico

### Introduction

Of the many challenges we face as we make audio reformatting decisions, copyright concerns can be the most daunting. Part of the challenge to preserve and provide access to audio recordings are the professional, ethical, and legal obligations of librarians and archivists to adhere to copyright law. Professionally, we are charged with 'preserv[ing] and protect[ing] the authenticity of records...[We also] have a fundamental obligation to preserve the physical integrity [of those records]'<sup>1</sup>. We must also 'strive to promote open and equitable access [...] in accordance with legal requirements, cultural sensitivities, and institutional policies'<sup>2</sup>. For it is ultimately our charge to 'recognize [our] responsibility to promote the use of records as a fundamental purpose of keeping archives', while also 'uphold[ing] all federal, state, and local laws'<sup>3</sup>. When those 'records' are sound recordings and the preservation of their physical integrity is dependent upon their 'physical' transformation, these professional responsibilities, particularly as they relate to current US law, become ever more challenging.

This challenge is compounded by the complexity of the law and by the multifaceted nature of audio recordings and digital preservation. Varying interpretations of copyright law and its implications for audio collections can play an integral part in determining what gets reformatted and when; who can have access to materials and how; and can have a serious impact a repository's ability to seek and obtain grant funding.

This paper explores the impact of copyright law on the preservation of, and access to, audio recordings by examining specifically how the complex nature of the laws and concern over litigation can lead to inaction and jeopardise the future of our recorded cultural heritage. In order to understand better how interpretations of the law are playing a part in audio reformatting decisions, in 2006 I sent a 26-question survey to the listservs of four major and two local professional organisations in the United States whose memberships include those involved in audio collections (the Association of Recorded Sound Collections, the Society of American Archivists, the Music Library Association, the Oral History Association, the Society of North Carolina Archivists and the North Carolina Library Association) – I choose such a broad based approach in the hopes of eliciting responses from those in established audio archives, as well as those dealing with smaller or less established audio collections in libraries or archives, and private and corporate archives -- An imperfect query, to be sure, but one that nonetheless elicited responses from 69 professionals engaged in working with audio collections. The responses, which I will discuss in a moment, reveal the fear and frustration among professionals, and the need for clarification in the law itself, as well as a need for better articulation of the law's specifics concerning preservation of, and access to, audio materials.

I should perhaps pause here and explain that I am not a lawyer, that I am not an expert on US copyright law, and that I am not here to give legally binding or definitive answers. Even if I were a lawyer, I would be careful to explain that nothing I say constitutes legal advice; that one should consult one's home institution legal council in these matters; and that it all really just depends on the specifics. I include this disclaimer because it seems that every conversation regarding US copyright law, sound recordings, and archives begins this way, with a caution, a

<sup>1</sup> Society of American Archivists. "Code of Ethics" [http://www.archivists.org/governance/handbook/app\\_ethics.asp](http://www.archivists.org/governance/handbook/app_ethics.asp)

<sup>2</sup> *ibid.*

<sup>3</sup> *ibid.*

qualification, and few answers, which is perhaps at least one reason for so much confusion, fear, and frustration among those responsible for audio collections.

### **Complexity of Copyright as it Relates to Sound Collections**

In order to get at how interpretations of the law are affecting reformatting work/decisions, I will spend a short time highlighting the key provisions of the law that deal with sound recordings and archives. Extensive discussions of these provisions are widely available and being added continually to the literature, so in the interest of time I will do my best to deal with the law in a very short space.

#### **Origins of US Copyright**

The purpose of copyright law, as stated in Article I, Section 8 of the US Constitution, is to 'Promote the Progress of Science and the useful Arts, by securing for limited Times to Authors ... the exclusive Right to their respective Writings ...'<sup>4</sup>.

For much of its history, copyright has dealt specifically with, almost exclusively, printed works, leaving sound recordings out altogether, or to the laws of individual states.

'Sound recordings' are defined in Section 101 of the US Copyright Code as 'works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied'<sup>5</sup>.

This is to be distinguished from the underlying work, say the musical composition itself, or the text of a written speech, poem, dialogue, etc that has its own copyright status, which adds another layer of rights exploration.

Additional layers in the law include coverage of the following:

Pre-1972 Published Recordings – These do not fall under federal copyright protection, but instead rights are governed by the copyright laws of individual states

Post-1972 Published Recordings – which are covered under federal law

Unpublished Recordings and provision for Orphan Works

Beyond the recordings themselves, federal law offers provision for 'Fair Use', that is use for educational purposes; in Section 107 and in Section 108 provision for Libraries and Archives, which is the area that governs preservation and access issues and activities. Additionally, we must be concerned with the Digital Millennium Copyright Act which defines activities involving digital materials and digital conversion. So, those are some of the layers we need to be knowledgeable about in order to navigate through the minefield of copyright. How was that for a short summary?

Thankfully, many of these complexities are being reviewed and explored by the Section 108 Study group, which has been 'charged with updating for the digital world the Copyright Act's balance between the rights of creators and copyright owners and the needs of libraries and archives'<sup>6</sup>. These complexities have also been studied in recent and forthcoming publications from the Council of Library and Information Resources. The published studies are part of

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<sup>4</sup> *United States Constitution*. Article I § 8, cl. 8.

<sup>5</sup> *Copyright Laws of the United States of America and Related Laws in Title 17 of the United States Code*. Circular 92, Chapter 1, section 101. "Definitions." <http://www.copyright.gov/title17/92chap1.html#101>

<sup>6</sup> *The Library of Congress Section 108 Study Group*. "Mission Statement" <http://www.loc.gov/section108/mission.html>

the mandate of the National Recording Preservation Board (established by the National Recording Preservation Act of 2000). Most recently, a December 2005 report, written by June Besek<sup>7</sup>, offers a clearly written explanation of the complexities of copyright in relation to sound recordings, particularly pre-1972 published recordings. Despite these reviews, there remain few definitive answers for how to navigate copyright in relation to preservation and access in the digital age.

## Survey Responses / Listserv Discussions:

### A bit of background

The 69 respondents represented a wide variety of collections, and identified themselves mainly as working in large or small colleges and universities, and identified themselves professionally as either librarians or archivists. Departments ranged in size from 1 person to 300 persons, with most of the departments having between 3 and 5 people working. In those departments, people actually working with audio materials ranged from 0 to 8, with combinations of full-time and part-time staff, and student workers. When asked how they would describe employees working with audio materials, respondents indicated that A/V teams, archivists, sound engineers, librarians, student assistants, support staff, technicians, historians, cataloguers, and *data entry specialists* – with professionally trained staff and sound engineers representing a rather small percentage.

Audio collections represented by respondents include, as you might expect, a diverse array of material and formats, with both unpublished and published music recordings representing most of the material, but with collections that also include oral histories, published and unpublished voice recordings, taped meeting minutes, soundtracks, and sound effects. All the types of material appear to be represented in the collections - everything from wire recordings to digital multitrack audio files.

Forty-four respondents make audio reformatting decisions in their departments; 17 do not; the remaining eight formerly made the decisions, or currently make decisions in conjunction with a library director, or assistant director. For the 17 who do not make reformatting decisions, those decisions are being made instead by *staff in the Information Technology department*; advisory committees; library and departmental directors; and in one case the respondent was not sure who made the decisions.

Access is the primary reason for reformatting for 35 respondents; preservation the primary reason for 21 respondents; both access and preservation as reasons for 8 respondents; and 5 respondents indicated they were not reformatting for any reason. Regardless of the reason for reformatting, 59 respondents consider copyright status when determining what material is to be reformatted.

When asked whether they felt qualified to make decisions about copyright status of the materials in their collections, 24 answered with an unequivocal yes; 11 felt they were sort of qualified, or that the answer depended on the situation; and 13 answered with an unequivocal no [a few answers were not counted, as they were not quite relevant to the question].

### Sample answers<sup>8</sup>

*Yes, to a point. However, there are cases where it is almost impossible to find out who owns copyright (for example, when recording companies have merged etc.). Also, there are times when we*

<sup>7</sup> Besek, June. *Copyright Issues Relevant to Digital Preservation and Dissemination of Pre-1972 Commercial Sound Recordings by Libraries and Archives*. December 2005. <http://www.clir.org/PUBS/reports/pub135/contents.html>

<sup>8</sup> All survey quotes come from *Impact of Copyright on Preservation of and Access to Audio Material*. Summer 2006 Survey. Written and distributed online by Katie McCormick.

would like to consult our lawyer on copyright questions, but have difficulty obtaining an appointment with him' (Respondent 30).

'No one feels qualified at the moment' (Respondent 18).

'Yes and no. I feel as though I could research the topic, but there is a lot of fear and hysteria out there about copyright law and no one wants to give a decisive, unqualified answer in case they are wrong' (Respondent 42).

'We reformat only materials in special collections where copyright status is already covered by agreements' (Respondent 50).

### **For Preservation**

When asked whether they had concerns about violating copyright by reformatting audio materials for preservation, 27 respondents answered yes, and 41 said no. When asked to explain what those concerns were, answers ranged from '[I] don't want to violate any laws' (Respondent 3 – who, it should be noted, appeared to feel qualified to determine copyright status) to 'Prison and huge fines are not pleasant' (Respondent 58). Most of the concern stems from a lack of knowledge of the specifics of the law or, as pointed out by a couple of respondents, the murkiness of the law itself, particularly as it relates to digital activities.

### **Some examples<sup>9</sup>**

'I wouldn't have concerns if we were going to disc or other physical container, but we are considering going to networked access' (Respondent 12).

'Since preservation copying is so restricted, it is hard to figure out if ANY copying is allowable. On the other hand, much of the material would disappear otherwise' (Respondent 35).

'Because of the number involved, and the general process, the time consuming nature of the copyright clearance is a major concern. Another (more major) concern is the vagueness of the language in copyright law for permission to reformat for purposes of preservation' (Respondent 41).

'Section 108 of law does not fully cover our needs, particularly in digital age (digital reformatting particularly troublesome). Laws have become more strict – definition of 'library' not current with the times. Rights holders do not seem to understand issue of deterioration and obsolescence' (Respondent 57).

Too much trouble to learn laws, so just don't do it' (Respondent 65)

### **For Access**

When asked whether they had concerns about violating copyright by reformatting audio for access the ratio reverses, with 39 saying yes and 29 no (remember that in previous answers most of the respondents are reformatting for access, not preservation).

'When digitizing, I worry that the files become too easily "copyable" and that best efforts to keep access copies restricted are easily surmounted by our users' technological know-how' (Respondent 13).

<sup>9</sup> All survey quotes come from *Impact of Copyright on Preservation of and Access to Audio Material*. Summer 2006 Survey. Written and distributed online by Katie McCormick.

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*'It depends on the type of access. For access in-house (in a supervised reading room), our only concern is whether someone would try to steal or duplicate the CD when no one is looking. [ . . . ] The larger concern is access via the Internet. We do not provide such access, because it constitutes publication' (Respondent 30).*

*'We try to educate the public on the legal uses that can be made, an unpopular approach in the face of the widespread sharing that goes on. We are seen as denying use of materials because of this' (Respondent 56).*

### **Copyright and Grants**

A clear majority of respondents have not had copyright considerations have any impact on their efforts to apply for grants, which is perhaps hopeful, but I think the 11 respondents who decided not to apply for a grant because of copyright concerns highlights an alarming reality about the nature of funding.

*'I have worried that reformatting the materials would lead to access copies that would be so restrictive in their use that it would hardly be worth the effort' (Respondent 13).*

*'It is basically impossible to get grants for dark archiving. Without an access component, preferably online, grants just aren't attractive. There are lots of things I need to preserve, but without the ability to put them online, I can't get funding to do it' (Respondent 15).*

### **Reformatting**

When we discuss reformatting, the discussion gets separated into two areas or purposes – reformatting for preservation, and reformatting for access. Increasingly, particularly as we move away from analogue to analogue duplication into analogue to digital and digital to digital conversion, the lines between these purposes blurs in the discussion. It is difficult to discuss simply reformatting for preservation, or reformatting for access, as it is more cost and time effective to do all the work at once.

Whereas copyright may not be the first and foremost consideration, particularly in preservation reformatting decisions, it can be a major hindrance if the time and resources needed to track copyright ownership are seen as prohibitive, or impossible. As models of digital preservation continue to evolve, and as we continue to redefine the bounds of the library or archive 'space', these issues will only become more convoluted. That this is an increasingly relevant concern is evidenced by the windfall of recent publications from the Council of Library and Information Resources (CLIR), by the constant presence of copyright questions and concerns on professional listservs and blogs, and at conferences, and by the formation of groups such as the Library of Congress's Section 108 Study Group.

*'When we reformat for access (often demand-driven), the type of access we provide is in-house. We do not generally make these materials available for listening over the Internet. However, a workshop I attended indicated that granting organizations want the reformatted product to be distributed over the Internet. This type of access constitutes publication, and we do not have the legal right to publish recordings for which we do not have copyright clearance. So our big projects would be less attractive to a granting agency, because our institution does not have the time or personnel to obtain all the necessary copyright clearances in a large collection' (Respondent 30).*

*Administration would prefer not to reformat anything unless we could have blanket licensing' (Respondent 66).*

So, taken together, what do these responses and comments mean?

- Problems of staffing and difficulties in devoting time to tracing clearances
- Blanket decisions to confine access to physical presence 'on the premises'
- Confusion over what is allowed and what is not allowed
- The reality that funding agencies want a product
- Limitations on the ability to push the bounds

There is a need for risk taking in terms of copyright. As we wait for the laws to be updated, for the reports to come out, and for clarifications to be made, what can we do to provide clear resources for understaffed and small institutions? I will end here, with more questions than answers, and having only scratched the surface of the issue. I hope these questions will elicit further discussion that will lead to reform and better resources for every sound collection.

## Negotiating Jamaica's Past through the Lens of Indigenous Radio Serial Drama

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### Jamaica's Past

The electronic media landscape in Jamaica is evolving constantly amid two major challenges: The thrust to embrace global technological changes, and the need to implement models of development that support the world view of those who control the media resources and the political machinery. Contextually, broadcasting decisions in Jamaica, particularly since the 1980s, have reflected tensions between the agenda driven by commercial imperatives and that of a nationalistic sensibility.

Jamaica is the largest English-speaking island in the Caribbean Sea, and it lies between North and South America. Historically, the country has had a chequered past. From the late 15th century, Jamaica was under Spanish control until 1655, when the British invaded Jamaica, defeated the Spanish, and gained supremacy over the island.

After 1655, Jamaica remained under British colonial rule for a period of over three hundred years. During the period between the first and second World Wars, radio became a major player in the relaying of information. In the colonies during the period, those who fought for the Empire became familiar with the use of ham radio and took equipment back to the colonies. The 1930s was a time of major unrest in the Caribbean, leading to the emergence of trade unions, which later became the bedrock for the establishment of indigenous political power in the Caribbean. As the unrest picked up momentum, information was relayed by ham radio operators. The British government, using the BBC as parent company, sought to set up satellite stations across the region, first working closely with the ham operators and later establishing their own entities. The unrest led most territories either into associated statehood, or independence. Political independence was granted to Jamaica in 1962, but the scars of the debilitating legacies of slavery and colonialism persisted.

Radio broadcasting took very little time to establish itself as an appropriate medium for relaying information to the masses in the former colonies in the Caribbean. Radio broadcasting in Jamaica in the early years was engaged for national service and, most effectively, to communicate information during World War II. Most of these BBC satellite stations relayed programmes directly from the parent company, with very little output produced locally. As early as 1940, live oral narrative performances, including drama and music, were added to the radio programming of news and wartime information. The airing of such programmes continued during the post-World War II era, but these were imported mainly from the US and UK and were intended for the middle classes, who had high levels of disposable income. In Jamaica, few people owned radios in the early years when broadcasting was introduced. The masses gathered in public spaces (such as bars) to listen to public speaker boxes provided by RJR<sup>1</sup> and JBC<sup>2</sup>.

Many nationalistic citizens expressed concern about the appropriateness of the contents of imported programmes for Jamaicans, and advocated the development of indigenous programmes to counter the colonial legacies of underdevelopment, including unemployment, an unskilled labour force, illiteracy, poor health services, and the marginalization of the masses who existed

<sup>1</sup> Radio Jamaica and Rediffusion (RJR) was the first commercial radio station in Jamaica.

<sup>2</sup> Jamaica Broadcasting Corporation (JBC) was the public broadcaster, specifically established to facilitate national development

on the fringes of Jamaican society. An editorial in the *Daily Gleaner* of 4 May 1954 reported that 'complete illiteracy is the miserable lot of about one person in four over the age of eleven in this island'.

One of the founding fathers of independent Jamaica, Norman Washington Manley, who was the founder and leader of the People's National Party (PNP), strongly advocated self-government. Manley understood the plight of the masses and effected a number of developmental changes in the years between 1955 and 1962. This happened during his tenure as Chief Minister of the colony and later as Premier, when the island was granted associated statehood in 1959. According to Nettleford<sup>3</sup>, Manley sought to erode the colonial stranglehold by fostering the development of a cultural identity. Among the changes Manley introduced was the alteration of the existing social structures that fostered disunity. These included the expansion of public library facilities to include all the parishes, and the democratisation of the elitist system of secondary education by providing equal opportunities for all the children to access secondary education, irrespective of race and class. Additionally, Manley recognised that all people need to devise ways of telling their stories as a rallying point for forging bonds and for self-definition. To that end he encouraged writers, artists, dancers and musicians to engage their creativity in nation-building.

### **The Early Media Landscape in Jamaica**

Radio is considered a powerful medium for promoting social issues, educating people, and distributing information to a wide variety of audiences. From as early as 1956, Chief Minister N W Manley identified radio broadcasting as a vital tool for disseminating information to the masses of powerless people.

- **Radio Jamaica (RJR)**

Prior to the establishment of the Jamaica Broadcasting Corporation (JBC) as public broadcaster, the sole radio station was what is now known as Radio Jamaica (RJR). This station was repositioned in 1949 as a subsidiary of the London-based Rediffusion Company, and in July 1950 as a commercial enterprise that was accessible only through subscription. Therefore, it became mandatory for RJR's radio programmes to be sponsored by commercial entities; but the Jamaican radio audience objected to the periodic interruptions caused by advertisements inserted in their regular programmes. In response to these objections, RJR's management introduced a number of innovations, including radio serials and popular music, into their programming formats. By December 31, 1950, based on the number of licensed receivers, there were approximately 22 920 radio sets in Jamaica with an average of 650 000 listeners<sup>4</sup> in a population of approximately 1 000 000 persons, which included almost 200 000 persons who were classified as illiterates.

- **Jamaica Broadcasting Corporation (JBC)**

Under Manley's governance, the JBC was launched in 1959 as a medium of communication for creativity, and for entertainment and education. This decision was reinforced by the results of a study on broadcasting in Jamaica, which had been commissioned by the Manley-led government in 1956 and was undertaken by Mr A D Dunton, Chairman of the Board of Governors of the Canadian Broadcasting Corporation (CBC). Dunton's findings confirmed some of Manley's views about the role of public broadcasting in the development of Jamaica. The Dunton Commission questioned the social responsibility of RJR as a commercial radio

<sup>3</sup> Manley and the New Jamaica: Selected Speeches and Writings 1938–1968. Edited with notes and introduction by Rex Nettleford.

<sup>4</sup> Jamaica Broadcasting Company Limited. Annual Radio Research Report 1957–58: A Report on a Survey of Listening Habits and Tastes (1957). p. 16

station to offer services to the people that would facilitate nation-building. Also, it was considered a conflict of interest for Radio Jamaica, with its commercial imperative, to fulfil effectively the nationalistic mandate to facilitate the development of the masses.

By June 1959, the newly established government station, the Jamaica Broadcasting Corporation, posed a challenge to RJR's monopoly of the Jamaican airwaves. The JBC was modelled on the semi-commercial format of the Canadian Broadcasting Corporation, which also provided its first General Manager. JBC was envisioned as Jamaica's response to the BBC, and as an outlet for national development and creative expression. During the early years of its operation, JBC reportedly fulfilled its mandate to educate, entertain and inform the people on issues that would foster sustainable independence. Illustratively, farm broadcasting, a popular genre at CBC, was introduced at the outset of the JBC to relay information to the local farming community. Among the popular programmes was an early morning programme titled *Calling Farmers*. This provided useful tips for the farmers, who were preparing to begin their day's activities.

### **Imported Radio Serials**

Radio serials were also among the early offerings of radio broadcasting in Jamaica, but these were either imported from the US, the Grace Gibson Studios in Australia, or were productions from the British Broadcasting Corporation (BBC). A radio serial drama is considered to be a form of oral communication in that it is received entirely through the ears of listeners. It is also a personal and private medium that is heavily dependent on the individual's imagination.

The 1957 Media Survey sought to establish the most popular radio programme and the most popular radio serials, among other listening habits. On both counts the same three radio serials topped the lists. The most popular was *Life Can Be Beautiful*, which was aired from 8.15 p.m. to 8.30 p.m. on Monday, Wednesday, Friday and Saturday. The second, *Dr Paul*, was aired from Monday to Friday, between 12.00 p.m. and 12.15 p.m. The third was *Aunt Mary*. This occupied the 10.15 p.m. to 10.30 p.m. slot from Monday to Friday.

Although these were imported radio serials, the public's response to this format was instructive to the policy makers. People recall that great efforts were made by listeners to ensure that episodes were not missed and, if that was unavoidable, arrangements were made to have the programmes taped for listening later. Additionally, there were intense discussions following each airing. The popularity of this genre has been attributed to its storytelling dimension, and its potential for enabling the audience to identify with some of the issues aired, as well as to identify or fantasise about parallels in their own lives. There was also the cathartic aspect of allowing people to forget their own challenges as they engage in solving those of others.

### **Relevance of Radio Serial Drama**

Radio serial drama played a crucial role in countering widespread illiteracy and the imbalance in social, economic, and cultural opportunities in a plural society. It has been deduced from dialogue and various reports that this programme genre was introduced to Jamaica during World War II by the Special Service Division of the US Department of War, which supplied Jamaica's fledgling radio station, ZQI<sup>5</sup> (the forerunner to RJR), with transcriptions of popular U.S. radio drama serials.

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<sup>5</sup> An amateur radio station bought by the colonial government in 1940 from an American, John F. Grinan

Jamaican radio serial drama programmes were written, directed and performed in Jamaica, mostly by Jamaican talent. The influence of Jamaican folk culture is evident in the indigenous serial radio. The use of storytelling and the oral traditions of Africa are evident in the proverbs, riddles and stories told. The types of stories told reflected the occasion and cultural context, i.e. tragedy, weddings, nine nights, and yard concerts. Characterisation was used to depict the Jamaican psychic space, thus creating a connection with the past and enlightenment for the future. The choice of language mirrored that used by the characters represented and was understood by the recipients. By 1958 this genre had become so popular that it was identified as a suitable medium for communicating information to promote national development especially, among the marginalised in society. The Jamaican radio serial drama programmes that were produced between 1959 and 1989 were based on both folk and formal traditions. It was reported that:

*'Everyday drama and melodrama of the better "reel-life" serials are heavily listened to. This indicates beyond reasonable doubt that the Jamaican public is appreciative of the arts, albeit in popular forms first, and is attracted by the more thoughtful programmes rather than by the sensational or crude'*<sup>6</sup>.

In the period immediately after Jamaica's independence, indigenous radio serial drama programmes were utilised to communicate cultural and agricultural information; to address health concerns; to explain family planning issues; and to promote human resources development. To facilitate this initiative, JBC Radio Theatre was set up at the station. According to Claude Robinson, former Director General of JBC:

*'JBC was a place of tremendous creative energy that contributed immensely to the early nurturing and development of Jamaican popular music that has since become world famous. The station pioneered radio drama with Jamaican accents and based on our own history and culture'*<sup>7</sup>.

Driven by this impetus, a number of radio serials were developed locally to promote certain values and attitudes. Unfortunately, I am unable to find any comprehensive listing of our indigenous radio serials, or any archives with complete episodes of any serials from the early period.

### **Legacy Collection**

The National Library of Jamaica inherited some episodes of about 15<sup>8</sup> of the 33 radio serial drama programmes that have been identified as products of the formative years of nation-building. These serials were developed at a time when Jamaica was grappling with issues pertaining to self-identity and national consciousness. Various methodologies were used by scriptwriters to effect changes in attitudes and behaviour as they relate to people's health and well-being. One advantage of these local productions is that they tend to be culture-sensitive and therefore not only entertain but also, at the national level, constitute powerful educational tools that provide audiences with information that can lead to positive influences. In many instances the lead characters, in performing their roles, epitomised persons with whom their audiences could identify. This enabled them to create role models, and in so doing to appropriate the messages to make adjustments to their own lifestyle.

The first locally written and produced radio serial drama aired on JBC radio was *Shadows of the Great House*, which was written in the 1950s by Carmen Lawrence Manley<sup>9</sup> and contained 254 episodes. This story encapsulates the struggles of the middle classes during the pre-independence period, and the issues associated with the country's transition from

<sup>6</sup> Jamaica Broadcasting Co. Ltd. *Annual Radio Research Report 1957-58* p. 11

<sup>7</sup> Robinson, Claude *Reflection on Colonialism, Independence and Journalism*. *The Sunday Observer* August 4, 2002. p?

<sup>8</sup> See Appendix

<sup>9</sup> Daughter-in-law of Chief Minister, Norman Manley

traditionalism and colonialism to modernisation and independence. It also addressed issues associated with race, class and miscegenation<sup>10</sup>. Mrs Manley, a trained professional writer and actress, studied at the Centre of Educational Television in England – BBC and Scottish Television<sup>11</sup>. She was also the scriptwriter for *Dear Lady Nugent*, which was based on Lady Nugent's<sup>12</sup> diary records from 1801 to 1806. This serial showcased 19th century lifestyle in Jamaica. Both serials provide insight into social life during the plantation era through the lens of the privileged class, but unfortunately no episodes have been found.

*The Hannah Bogle Story*, also written by Carmen Lawrence Manley, exposes the behind-the-scenes experiences of a cook/housekeeper in the kitchens of various households. It chronicles the sacrifices of a strong Jamaican woman whose sole desire was to assist her younger brother in realising his dream to become a medical doctor. This is a story of strength, humility, devotion and determination. Jamaica's cultural icon, the late Louise Bennett-Coverley, played the lead role. Other cast members were accomplished actors and actresses, including Eric Coverley, Ranny Williams, Tess Thomas and Lois Kelly-Barrow.

On listening to episodes in the NLJ's collection, one marvels at the relevance of the messages to present day happenings. Most noteworthy are the productions by Elaine Perkins, whose works span literacy, coping with life challenges, prison reform, agricultural development, and issues related to government policies. Perkins's success as a producer and scriptwriter could be attributed to her tendency to reflect the thoughts and concerns of her target audiences. Her works became the main staple on many Jamaicans' radio menus. She recognised the roles of folk belief and superstition in those areas in Jamaica that had little access to information, and therefore subtly used these stories to expose the potentially negative effects of over-reliance on traditional customs and practices solely, as well as to highlight the benefits that can be accrued from using scientific knowledge.

Perkins is renowned for writing and producing what has been classified as the longest running and most successful indigenous radio serial, *Dulcimina: Her Life in Town*. This serial, which was aired daily from 1966 to 1984<sup>13</sup>, documents the struggles, triumphs and pitfalls of rural-urban mass migration. It highlights the challenges of urban survival, including unemployment, poor living conditions, and culture shock as the characters relate to lifestyles and values and provision of meals, among other things.

Some of the other indigenous radio serials that addressed coping with life's challenges included *Stella*, *The Fortunes of Flora Lee*, and *Sister Angela*. *Stella* did not focus on developmental issues but on the romantic problems encountered by an educated middle class woman who was caught up in a murder mystery. *The Fortunes of Flora Lee* was reminiscent of earlier, imported medical radio serials. The storyline highlighted a nurse from rural Jamaica who came to the city to work, and fell in love with an urban, upper class medical doctor, and the problems inherent in such a relationship. The story exposed class and intra-racial conflicts. The story of *Sister Angela* is set in a convent and centres on 'one woman's struggles to be worthy of the ring she wears'<sup>14</sup>.

Another popular and meaningful work by Perkins is *Life in Hopeful Village*. This was aired for ten years on JBC radio. Perkins created a village with a shop, a church, and other familiar spaces in which real people acted out their life stories. Through actions and dialogue in familiar spaces the intended message was authenticated. Characters were credible in that

<sup>10</sup> Daily Gleaner July 18, 1959

<sup>11</sup> *The Hannah Bogle Story* The Sunday Gleaner Magazine, March 12, 1972.

<sup>12</sup> Lady Nugent was the wife of a Colonial Governor

<sup>13</sup> 1966–1971 on JBC radio. 1971–1984 on RJR. Discontinued because of financial and ideological constraints.

<sup>14</sup> Introductory line for each episode.

the lifestyle and attitude of characters chosen provided scope for events to unfold. For example, Little John, the illiterate, 50-year-old farmer had a mindset that ran counter to the government's agricultural development plans. The storyline was developed round themes that related to his ignorance of innovations. Through a growth process, Little John became a role model for positive growth. As the medium of communication, nation language was widely used. Gloria Lannaman, historian, playwright and former General Manager of JBC, also used nation language in her radio serial productions titled *A Time to Remember* and *Journeys*. These writers shattered the myth that the Jamaican dialect served only as comic relief. It was used effectively to communicate the woes and challenges faced by people in their quest for improved living conditions.

Perkins also produced *Life at the Mimosa Hotel* for the Jamaica Tourist Board as a way of fostering the right attitudes and behaviour of street vendors towards tourists who visit Jamaica. The setting is a small hotel on the North Coast. This story relates the attempts by hotel owners, legal vendors, and tourists to cope with harassment from intruders.

The serial titled *Naseberry Street* (1985–1989) was developed by Perkins for the Jamaica Family Planning Association. This is a story about a Jamaican nurse who tried to introduce family planning practices into a highly prolific area of Jamaica. It highlights the plight of Jamaican women who cohabited with their children's fathers in the yards in Kingston ghetto areas. The purpose of this serial was to promote positive attitudes to family planning in order to boost these women's self-esteem, and its intended message was that careful family planning could result in improved lives. The ill effects of unwanted pregnancies, abortion, or abandonment are presented. Reference is also made to institutions that offer support and assistance. Persons with whom the listeners could identify were used to 'soft-sell' this message. This serial was very effective in promoting the family planning campaign. It reached over 40 per cent of the population of Jamaica. This programme was used in other areas of the world.

### **Problems/Challenges**

In spite of the express popularity of radio serials, tensions between fulfilling public service goals and the economic viability of the stations gave rise to challenges for this programme genre. From the 1960s onwards the need for additional income increased, and the JBC's focus was repositioned from national (specific) to general. JBC increased the number of programmes imported to satisfy the needs/tastes of some privileged Jamaicans. This mirrored a shift in the nation's agenda as alignment with the United States intensified.

During the 1970s attempts were made to return broadcasting to its original mandate to promote nation-building and cultural identity. To this end local programming was emphasised. In order to make radio more accessible, and to allow people to express themselves, JBC was decentralised and three regional stations emerged. These were allowed four hours for broadcasting their regional news. During the other hours, programmes were transmitted directly from the central station, but as the challenges of economic viability intensified the number of imported programmes increased. American imports were preferred and this coincided with a time when Jamaicans were exhibiting increased preferences for American products, and America was pushing harder too, to cement its ideological foothold in the region.

By the 1980s satellite technology and VCRs further compounded the levels of competitiveness in the Jamaican electronic media landscape. A number of radio and television stations were sold to private entities between 1989 and 1990 and were established as commercial radio stations. The dichotomy between fostering national identity and promoting world culture represented an ideological shift from a socialist system of government to a capitalist one.

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The need to be involved in the communication and information revolution also helped to undermine the importance of the JBC as a public service broadcaster and voice of the people. The people were now gravitating towards the new stations that were promoting and propelling broadcasting into a satellite North American cultural realm. The JBC was eventually divested.

### **Access and Preservation**

The National Library of Jamaica recognises the significance of these radio drama serials as conveyors of cultural expression, and for information dissemination and public education for nation-building. We are now seeking responses to our enquiries about acceptable procedures for the provision of access to the indigenous serial collection in its custody. Unfortunately, there is a lack of supporting documentation to enhance the process. Other measures will have to be used to garner background information, because supporting documentation was not available at the time of acquisition.

The NLJ constantly receives requests for various radio drama serials from both locals and Jamaicans in the Diaspora. Periodically, letters to the editors of major newspapers, as well as tributes following the death of former cast members and scriptwriters, express regrets about the disappearance of these works. It is against this background that the NLJ hopes to establish a national registry of all the indigenous radio serials held in Jamaican archives as a move towards the preservation of these forms of cultural expression.

The library recognises the urgent need for legal advice<sup>15</sup> on how to proceed to establish ownership of these works as a prerequisite for defining the parameters for the provision of access. Many of the audiotapes are displaying signs of deterioration, and data migration needs to take place before irreplaceable losses occur. Unfortunately, these serials were recorded on reel-to-reel tapes and it is proving to be extremely difficult to acquire functional playback equipment. Additionally, the staffing complement is inadequate and is relatively unfamiliar with the equipment.

Access to this collection is further hindered by the absence of the appropriate equipment for playback. Functional reel-to-reel machines are difficult to access. This limitation has serious implications for metadata collection. Also, in some instances people who may be able to put the story in context are not available; many of the major players, including scriptwriters, producers, and actors are now dead.

There is an urgent need to have procedures established to facilitate access to this wealth of historical recordings. This is imperative, especially if we are serious about renegotiating our past, both to enrich our collective memory and to provide a frame of reference for identity building.

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<sup>15</sup> Through the Attorney General's office

**Appendix I**  
**Partial List of Indigenous Radio Serials**

<b>DATE</b>	<b>PROGRAMME</b>	<b>SCRIPT WRITER(S)</b>
<b>1950s</b>		
	Beautiful Jamaica	
1958	The Clans of Guava Ridge	
	Life with the Morgan Henrys	Ranny Williams
1958	The Shadows of a Great House	Carmen Lawrence Manley
<b>1960s</b>		
	Dear Lady Nugent	Carmen Lawrence Manley
1963 – 1975	Life in Hopeful Village	Elaine Perkins
1967 – 1980	Dulcimina	Elaine Perkins
1967 – 1968	Stella	Elaine Perkins
<b>1970s</b>		
1971 – 1975	A Time to Remember	Gloria Lannaman
1972	The Hannah Bogle Story	Carmen Lawrence Manley
1975	Journeys	Gloria Lannaman
<b>1980s</b>		
1980 – 1982	Mortimer Simmonds	Pat Cumper
1981	The Fortunes of Flora Lee	Leonie Forbes, Charles Hyatt
1982	The Way of the World	
1982	Junction JA	
1982	Life at the Mimosa Hotel	Elaine Perkins
1983	Alloysius	Pat Cumper
1984	Ma B's Family	Pat Cumper, Trenton Alleyne
1985	Naseberry Street	Elaine Perkins
1983	Sister Angela	Charles Hyatt
1988	Wrong Move	Barbara Gloudon
	Life with Seebert	

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## End Users, Metadata and Copyright – Who Mentioned Digitisation?

Peter Findlay, British Library Archival Sound Recordings Project, London, UK  
Paper given at the 2006 IASA annual conference in Mexico City, Mexico

*At the end of September 2005 the British Library with support from the Joint Information Systems Committee [JISC] launched Archival Sound Recordings. The service delivers approximately 4 000 hours of recordings online to higher educational users, and marks the single biggest advance in collection accessibility in the Sound Archive's history. This paper summarises a presentation made at the 2006 IASA Annual Conference in Mexico City, and explores the engagement of users with online audio content.*

The British Library is engaged in a revolution. The explosion of content on the World Wide Web has meant that libraries need to mobilise in order to remain relevant. The reading rooms of the British Library are full, and we remain committed to developing and improving traditional reader services. However, without online access to digital resources the library would become increasingly less relevant. Over the last five years the library has been gearing up to serve content remotely. This means a shift in business focus from collection care, development, and documentation to service delivery, though our traditional role as custodians remains crucial to our success.

The Archival Sound Recordings [ASR] service forms a key component of the strategy to redefine the library. Engaging with users is central to enacting this strategy, and the ASR project has sought to develop relationships with the community it seeks to serve. An ongoing dialogue with users is essential, if we are to understand what users want and how best to deliver content to them. This dialogue will increasingly be delivered via web2-enabled functionality.

Working with users has been an essential feature of the project. Throughout the development period, a user panel made up of subject specialists from across the academic spectrum has advised on the selection of content and the development of the site's user interface. Lab-based testing of a prototype led to numerous changes to the website, and people with disabilities were consulted in order to make the site as widely accessible as possible.

Ensuring that the service will be used, means engaging with potential users. Celia Duffy, chair of the ASR user panel says, 'The panel represents a range of disciplines and educational areas. In addition to subject-based academic input we benefit from an e-learning expert and an accessibility specialist. Our job has been to contribute to discussions on content, to advise on usability, and to act as ambassadors for the project, promoting it within our professional networks'.

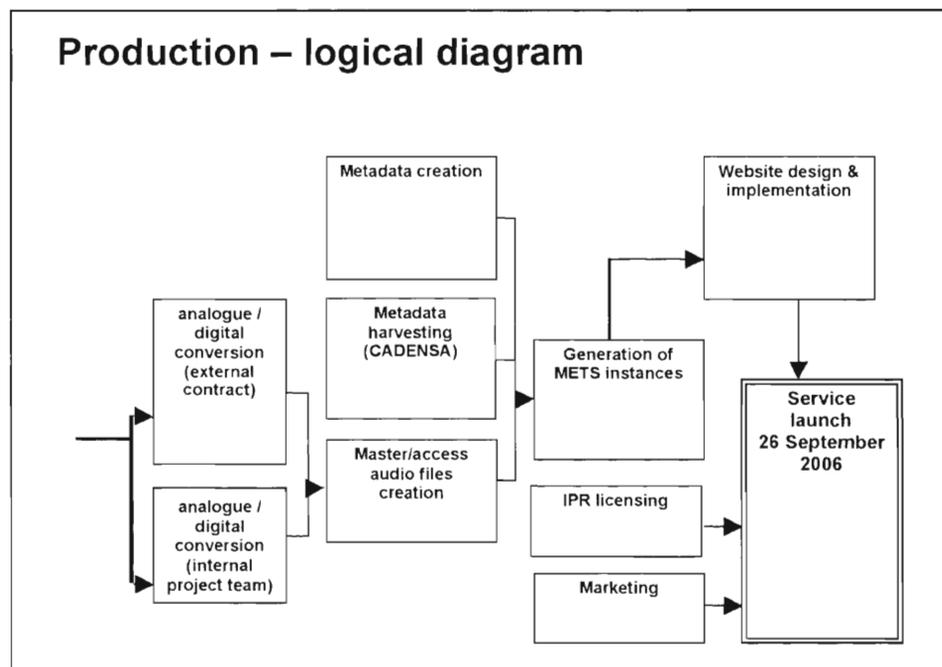
A series of workshops have allowed the library to engage directly with service users. The workshops have sought to promote sound as a learning resource equal to printed materials. Recordings are dynamic documents that can inspire new lines of research, and the recordings on the site can be downloaded for editing and reuse. The workshops explored the notion of embedding sound in teaching and learning materials.

Academics have traditionally needed some encouragement to use recordings in lectures, if only because there may be barriers in place that limit access. For example, institutional networks may have technical restrictions in place that impede access to audio. In some instances, technical staff may not be able to support access throughout the campus. And as lecturers become more time-constrained, the more likely they are to rely on tried and tested presentation materials. Providing features that aid use of a resource have become imperative; a simple-to-use interface, with clear navigation routes being a prime example.

A number of special facilities have been designed for ease of use of the ASR service. For example, users may want to carry out research into a number of recordings and save any quantity of clips to a 'My Project' page for later use. Also, users have the facility to download a selected recording and edit into segments off-line, using freely available audio-editing tools.

The recordings are provided in a choice of two digital formats. Windows Media files are supplied for audio streaming (in order to facilitate fast browsing), while MP3s are provided for download purposes. In some instances, files may be up to 40 minutes long, and those are provided at a medium resolution (128kbps) to facilitate faster downloading. Some oral history interviews are 20 hours long, and these are provided in half-hour sections. Access media is derived from archival digital masters.

Preservation has also been an important part of the process, because preservation means access for future generations. Production of the digital object is much more than producing an access file; it is a process of creating an autonomous digital object that brings together the archival original, the derivative digital master (preservation copy), access formats, and associated technical, rights and descriptive metadata. The following diagram illustrates the production approach to creating such objects.



Digital production was carried out under external contract, owing to in-house capacity issues. Quality assurance was overseen by Sound Archive Technical Services. The setting of audio benchmarks was crucial in ensuring constancy of quality, and product control was served by introducing product-based planning, including the use of detailed product descriptions.

The ASR website offers detailed information about the recordings. The metadata is exposed to the World Wide Web and can be harvested by search engines in conformance with Open

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Archives Initiative (OAI) standards. Other standards have been tested in the course of the project. The Metadata Encoding and Transmission Standard (METS), developed by the Library of Congress at the initiative of the Digital Libraries Federation (DLF), has been implemented for the first time with audio content. This XML-based standard allows for segmented recordings with multiple parts to be referenced as a whole. METS also documents the relationship between the archival original and the derivative digital media, and shows the processes undertaken to transfer from analogue to digital states.

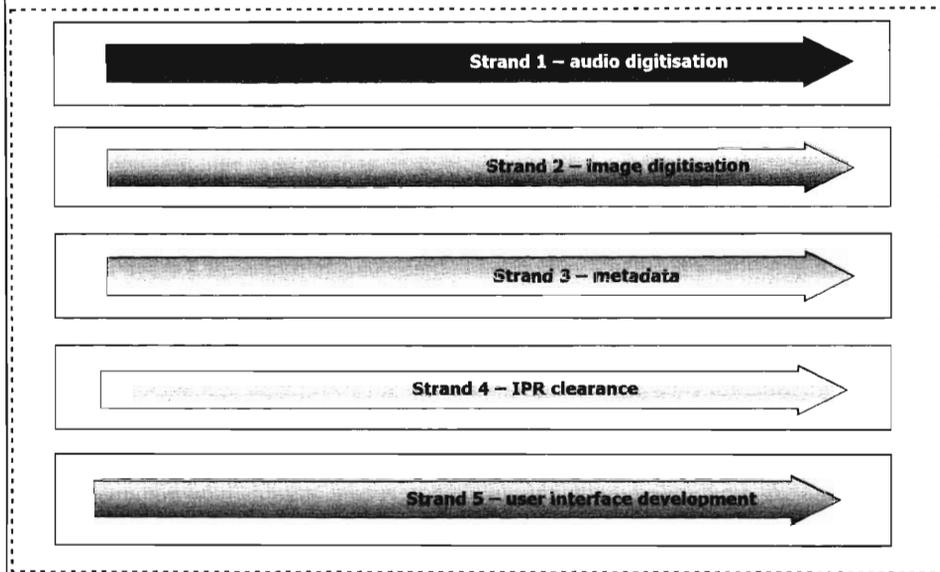
In some cases, ASR also offers images of the original packaging of commercial products, including disc labels. Many commercial audio publications contain booklets, sometimes with accompanying essays by leading critics. These are presented as PDF files and have embedded OCR text included. Some of the oral history materials have full transcriptions provided, or at least a comprehensive summary embedded in the metadata record, and these summaries are viewable on the web page at item level.

Clearing intellectual property rights in sound recordings is often complex and the project had to devise a strategy for dealing with multiple rights issues. External clearance specialists were employed to clear material that required negotiation or extensive research. It was evident from the responses of the user panel that users regarded a download facility as a prime requirement of the service. With illegal downloading becoming so widespread, this met with understandable concern from the commercial record industry. However, negotiations with record industry organisations such as PPL [Phonographic Performance Limited] have been successful in winning round industry opinion, and the ASR service is unique in being licensed to provide the download option for popular music and other material that is still in copyright.

Clearing rights for unpublished materials can also provide its share of challenges. For example, one of the collections consists of recordings made by the linguist David Rycroft in Africa during the 1960s and 70s. Rycroft often recorded musicians and singers along the road, so finding those people is impossible. Our approach was to contact the South African Musicians' Union and pay an agreed sum into a holding fund so that there was money available should a musician come forward claiming rights in the future.

What was notionally a digitisation project is, in fact, a reaction to a set of complex business drivers, the primary one being delivery of digitised content as a comprehensive service. The strands of work are as follows:

## Production – workflow strands



Access to the ASR service is available to all the ATHENS-authenticated users in licensed institutions of Higher and Further Education in the UK. The Athens Access Management system provides users with single sign-on to numerous web-based services throughout the UK, and overseas. The terms of use for the service are governed by a licence that has to be signed by each institution, and includes the prescription that materials accessed on the site can be used only in the context of teaching, learning, and research in the UK. Once a licence has been signed by an institution, access is granted to members of that institution via a username and password. There is no charge for a licence.

In closing, The British Library is pleased to announce the next stage of the ASR project. Following the successful launch of the ASR service in September 2006, JISC has agreed to fund a second major project, which will add a further 4 200 hours of sound to the service by 2009, in the form of eight content packages. This will increase the scope of ASR's offering, and reinforce its importance as a major resource for the Higher and Further Education sector.

How to use Archival Sound Recordings:

- Information about the recordings is freely available online to all, but in order to listen and download, authentication is required
- To request a licence for authentication, a Higher or Further Education institution should contact [asr@bl.uk](mailto:asr@bl.uk)
- The ASR website URL can be found at <http://www.bl.uk/sounds>

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[List of content currently on ASR site]

### **African Writers' Club**

Over 250 hours of radio programmes about African literary, social and cultural affairs. The recordings were made mostly at the Transcription Centre in London for broadcasting throughout Africa, though some were produced and broadcast by the BBC World Service. Ranging from radio dramas to magazine programmes, from politics to poetry, this collection provides a fascinating view of Africa in the mid-1960s.

### **Art and Design Interviews**

Intimate discussions about the life and work of British painters, sculptors, photographers and architects. Interviewees include sculptors Elisabeth Frink and Eduardo Paolozzi; painters Terry Frost, Paula Rego and Michael Rothenstein; photographers Grace Robertson, Mari Mahr and Helen Chadwick; and architects Denys Lasdun, Ralph Erskine, Edward Hollamby and Patrick Gwynne.

### **David Rycroft Africa recordings**

A South African-born linguist and musicologist, Rycroft made many field trips to villages, townships and settlements around South Africa between the 1960s and 80s. Fascinated by the relationship between oral traditions and musical structure, Rycroft focused on unaccompanied choral singing, songs composed for indigenous musical instruments, and urban music. The bulk of this material was previously unpublished.

### **Klaus Wachsmann Uganda recordings**

The 'foremost pioneering scholar in African music', Wachsmann made roughly 1 500 unique recordings of indigenous music in Uganda, most of which have never been published. This collection dates from the late 1940s, when Wachsmann was curator of the Uganda Museum in Kampala, and includes field recordings and performances from the museum.

### **Oral history of jazz in Britain**

An informal and anecdotal history of the music, venues, and people that defined jazz in the UK. Through interviews with musicians, promoters and record label owners, this collection focuses on some of the less well known aspects of British jazz – the impact in Britain of overseas musicians, British developments in free improvisation in the 1960s, the contribution of women, and jazz outside London.

### **Records and record players**

This teaching package reflects the cultural and economic impact of developments in recording technology over the 20th century, using sounds, image and text. It also features oral history interviews with significant figures in the worlds of music, radio and the recording industry, with a special focus on backroom innovators who rarely enjoyed the limelight.

### **St Mary-le-Bow public debates**

At one o'clock every Tuesday lunchtime for 15 years (1964-1979), Joseph McCulloch, the Rector of St Mary-le-Bow Church in the City of London, invited a well known public figure to debate an issue of the day. Speakers at these popular events included Enoch Powell on race, Diana Rigg on single parentage, A J Ayer on moral responsibility, Edna O'Brien on fear, and Germaine Greer on free will.

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## 400 Popular Music Tracks

A collection of popular music from the 1930s to the 1990s, selected to show the developments in sound recording technology and musical styles over that period. The material is designed to support the growing academic study of popular music in UK further and higher education.

## Beethoven String Quartets

This package gathers together performances of Beethoven's string quartets in recordings that span some 80 years. This comprehensive archive of more than 700 recordings is a unique resource for the student of music, reflecting changes in performance styles and interpretation throughout the recording era.

## Herpetology

This collection comprises over 1 000 unpublished amphibian recordings representing 350-400 different species. Herpetology (the study of amphibians and reptiles) forms a significant area of world wide research in the field of biological sciences. The recordings enable the study of behaviour, taxonomy and conservation, as well as direct research into acoustic communication systems.

## Chopin early piano performances

Chopin is considered the pre-eminent composer of piano music in the first half of the 19<sup>th</sup> century. He created new approaches to existing forms, such as the piano sonata, waltz, nocturne, é'tetude, prelude, polonaise and mazurka. This content package presents 1 000 recordings of his works for piano, recorded by such pianists as Vladimir Horowitz, Sergei Rachmaninoff, and Artur Rubinstein.

## Scientists' Lives

35 oral history interviews with eminent scientists, including Nobel prize-winners Aaron Klug and Joseph Rotblat, and members of the Common Cold Unit.

## Soundscapes

The word 'soundscape' was coined by composer R Murray Schafer to identify sounds that 'describe a place, a sonic identity, a sonic memory, but always a sound that is pertinent to a place'. This selection draws together mechanical and industrial sounds (including transport and fog-horns), soundscapes of the natural world across continents, urban soundscapes, and wildlife sounds from around the world.

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## **The Film Archives of the National Geographic Society An Introduction to the Past, Present and Future**

Joshua S Harris, *The National Geographic Society, Washington DC, USA*  
Paper presented at the IASA Conference 2006, Mexico City, Mexico

*The audiovisual collections of the National Geographic Society document an immense range of topics explored through more than 100 years of research, exploration and documentary film production. The challenges faced by AV archives globally continue to grow as we encounter rapidly changing technologies and the development of new mediums.*

*Archives today have a unique ability to connect with audiences internationally and utilize their collections in a myriad ways. This paper will present the work that the NGS has undertaken to educate, promote and communicate the diversity and natural history of our planet through the vast assets of the film archives.*

### **Introduction**

Founded in 1888, the National Geographic Society has been dedicated to the increase and diffusion of geographic knowledge, while promoting conservation of the world's cultural and natural resources. Today, the society is one of the world's largest scientific non-profit organisations. It aims to conduct and assist in investigation, research and exploration in any branch of science, and to encourage the knowledge of other lands and cultures. The society has an excellent tradition of presenting the diversity of our planet through continuing scientific research and its presentation to the general public.

The audiovisual holdings of the National Geographic Society document, through moving image and sound, the immense range of topics explored through the society's work. The Film Archives contains hundreds of thousands of elements of film, videotape, audio recordings, paper materials, photographs, artwork, and other materials documenting society projects. In addition, the archives are the repository for the National Geographic Television and Film Department and hold all the audiovisuals dedicated to NGS documentary film production. Numerous acquired, donated and represented collections are also held in the archives. These collections are contained in two on-site and three off-site storage vaults. They represent a vast array film, video and audio formats, and a wide range of preservation conditions. The archives department has been charged with the challenges of preserving, protecting and managing these collections, while providing access in order to support the work of the NGS as well the public's increasing demand for media material. In the light of this, the collections have been identified as a remarkable resource, and have been utilized increasingly to support the NGS mission.

### **A Brief History of Film at the National Geographic Society**

As the collections repository of the National Geographic Society, the film archive has a legacy of footage that spans a diverse array of topics and geographic locales. During the late 1800s the society reported findings from its research and related projects in a manner geared primarily to the scientific and scholarly community. Into the early 1900s there was an increased desire in the NGS to connect with, and report its findings and projects to, the general public. Hand in hand with an increased awareness of, and involvement in, the leading technological advancements, photography became a primary interest with which to make this connection. Early society photographers joined sponsored research expeditions, and the published journal became the vehicle for disseminating the information. The 'Journal of the National Geographic Society' became a publication on the forefront of journalistic and publication technology. Some of the earliest colour photographs were reproduced in those pages, and the photographic content that reported on distant cultures and discoveries led to large increases in society membership among the public. As society membership grew, so did the opportunities to increase exploration and documentation.

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Naturally, in this growing visual world of the early 20<sup>th</sup> century, advancements in moving image technology began. The National Geographic attempted early on to become involved in this growing phenomenon, and began to send motion picture photographers on research trips and expeditions. The Ziegler North Polar Expedition in 1903 is the first known film of this type and is the oldest artefact in the collection.

Early collections are representative of society expeditionary films. Examples include: the Citroen-Haardt Trans-Asiatic Journey (1932); Adm. Byrd's expedition to the South Pole (1930); Wentzal and Ripley's exploration in Nepal; the flight of the Stratosphere (1935, first flight above the earth's atmosphere); Capt. Villiers's sailing expedition round Cape Horn (1929-1932); and Goyer and Stevens's aerial flights over South America (1930). Research films from locales such as China, Tibet, Mexico, New Guinea, and Aboriginal Australia are but a few examples of films from the early 20<sup>th</sup> century. A large collection holds the visual and audio portions of lecture and research reports given to society membership throughout this period. Often, these lectures were silent films, to which the narration was given by the scientist or researcher. Louis Leakey engaged in numerous film lectures during his career, with his accompanying films shot by esteemed nature cinematographer Hugo van Lawick (see Appendix A).

The amount and diversity of footage taken by cinematographers increased dramatically as the NGS evolved, and as the growth of media – including television – exploded in post-World War II America. The society began to look into the potential of television as a new platform for reporting its work. The first National Geographic television segment aired on NBC's 'Omnibus' in 1958 with a report on Luis Marden's voyage to the Pitcairn Islands and the discovery of the wreck of the *Bounty*, broadcast to the public in color (although fewer than 200 000 US families owned colour television sets at the time) (Jenkins 2000).

Continuing to utilise developing technologies of the period, the NGS was instrumental in the evolution of modern documentary film production. The first National Geographic Special, 'Americans on Everest', was produced in 1964 and documented the first motion picture taken on the summit of Mt Everest. Narrated by Orson Wells, this film began a new chapter of film production in the society's history. The Geographic's unique position internationally allowed access to some of the most sacred and unknown regions of the world. It was through its filmmakers and photographers that some of the earliest images of world heritage sites, such as Mecca, Macchu Picchu, the Vatican, the Great Pyramids of Egypt and Angkor Wat, were produced. Natural treasures, such as the Grand Canyon, the Amazon, the Sahara Desert, and Antarctica were viewed through these same mediums. Aerial and underwater footage became well known signatures of Geographic film. The works of leading scientists, such as Jacques Cousteau, Louis Leakey, Diane Fossey, and Jane Goodall, were shown to growing audiences, and many production and documentary styles and innovations were developed through this work (see Appendix A).

Documentary film production has increased exponentially over the past 50 years. As the number of possible outlets has increased, so too has the ability to utilize these as tools for the advancement of knowledge. The documentary work continues, and film production units continue to support the goals of the society's founding members through the production of wildlife, natural history, environmental, and ethnographic film, while continually developing new techniques and styles in this respect.

### **The Film Archives Collections**

As the main collections repository for the film legacy and continuing work of the National Geographic Society, the film archives department has an enormous role to service needs

both in and outside the organisation. The collections of moving image material comprise a number of AV formats representing the history of film and video. Roughly 25 000 film elements, 70 000 analogue tapes, over 40 000 digital tapes, and a growing collection of High Definition footage are housed in the archives. Table 1 provides a general list of formats held by the archives.

35mm film	Mini dv
16mm film	D-1
Super 16mm film	D-2
8mm film	D-3
Super 8mm film	D-5 HD
70mm film	HDcam
2" quad	HDcamSR
1" quad	DVCPPro-HD
3/4" Umatic	DV-HD
1/2" VHS	DVD
Betacam	DLT (Digital linear tape)
BetacamSP	HDD (Hard-disc drive)
BetacamSX	Various digital formats
Digital betacam	
Hi-8	
Dvcam	
Dvcpro	

**Table 1: General film, video and audio formats held at the NG Film Archives**

In addition to these visual formats are extensive collections of audio and sound elements. These consist of a wide range of topical matter, including original historical field recordings, subject interviews, production quality audio masters, music, sound effects, bioacoustics and natural sounds. Owing to the size of the audio collections, a substantial portion remains unidentified or catalogued and presents an excellent chance for future archival research and restoration work. The audio formats held in the archive include: 16mm and 35mm magnetic film tracks, 2", 1", DAT, DA-88, 1/4" audio reels, CD, and digital files.

The film archive preserves a multitude of miscellaneous collections pertaining to the society's film history. Paper print documents, correspondence, research logs, manuscripts, transcripts, camera reports and logs, laboratory reports, cut sheets, production notes, and field notes are just a sample of these collections. Photographs, slides, artwork, graphics and maps related to film, television and documentary production are archived as well. These miscellaneous collections are of immense historical value and serve as an excellent resource for film-based research. A rich history of cinematography and film documentation at the society is found among the paper-based records and special collections.

### **Collection Vaults and Storage Conditions**

Preservation of large collections of audiovisual artefacts is a familiar challenge for all those involved in the fields of museum and archival management. The common problems associated with conservation and proper handling play a key part in many of the decisions made by collections staff world wide. The long-term preservation of repositories containing film, video, and sound materials is well known, and extensive research has been done on many ends to provide answers that help to inform management decisions. (Adelstein 2004; Reilly

1993; Wallace 2006). The volatile nature of film and magnetic media is an issue that institutions housing collections of this nature have to face daily. Archival storage conditions and related issues are of the utmost importance in an era in which AV archives are becoming noticeable for their diversity of content.

Following a theoretical model based on 'preventive conservation', archive staff works to maintain and monitor optimal storage conditions, which will ultimately preserve collections for extended periods. This will reduce the need for future intrusive conservation of individual items (McCormick-Goodhart 1996). Preservation by migration is a common practice employed as well for long-term preservation. Assets are migrated and transferred to newer AV formats to achieve extended preservation of the originals and to meet the society's overall audiovisual needs. Owing to the size of the collection and the cost of migration, these efforts require informed decision making and careful consideration in order to achieve the best results. The formats used in transfer are based primarily on the needs of production units, stock footage, and external client needs, with archival preservation working collaboratively alongside.

At present, three in-house collection areas and three off-site film vaults serve the archives' storage needs. The in-house tape library vault contains over 40 000 videotapes and holds master quality material for in-house use (see Fig 1). This secure storage area is maintained in a cool and dry environment that is adequate for the preservation of magnetic media and digital tapes (Wheeler 2002). This unit has been set up primarily to hold top quality material for immediate use. An additional, lesser storage area is maintained for the purpose of holding tapes that are used as in-house reference screeners.



**Fig. 1: On-site tape vault used to house videotape elements**

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Additionally, a cold preservation vault is maintained at the society headquarters (see Fig 2). This space is specially designed to be maintained at 4-5°C (45-50°F) with a 40-45% RH. In this collection space is a significant number of the NGS historic film materials predating 1950, as well as film transfers of historic footage reels held on an array of formats. A collection of over 2000 1" quad magnetic tapes containing original film transfers is contained in the cold unit. The archive has been working for the past two years on preserving this one-inch collection through migration to digital betacam tape. This space is used additionally for housing film materials that are brought in for special projects, and as temporary storage, thus providing collection staff with cold storage areas in-house on an 'as needed' basis. The availability of a cold storage unit is vital in order to fulfil departmental functions. The time for a film-based material to be kept outside of cold storage is kept to a minimum, and special care is taken when handling all the film negatives (Bigourdan 2005). The archive is involved in studies dealing with the use, equipment, and facilities needed to maintain proper cold storage conditions. The society maintains a seat on the International Standards Organization, is actively involved in issues of permanence and stability of film, audio, and photography collections, and works jointly with several institutions on topics relating to preventive conservation.

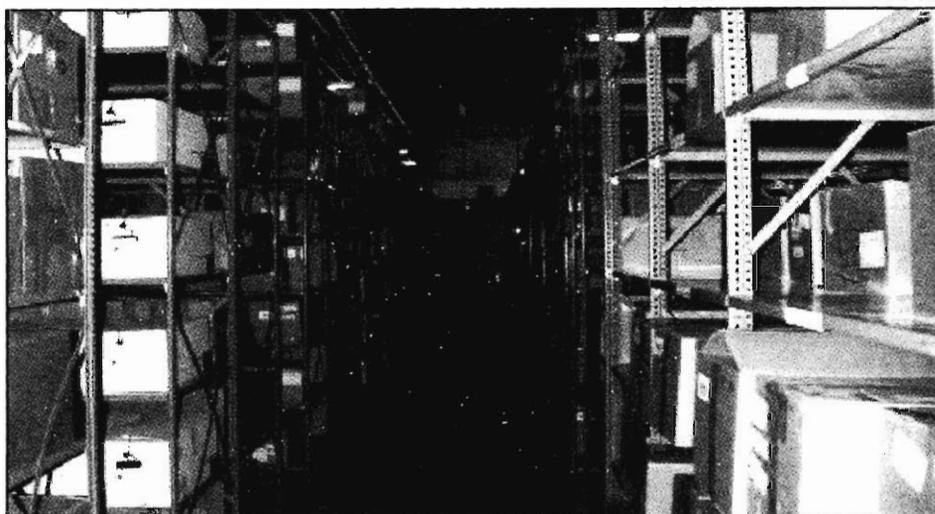


**Fig. 2: NGS in-house cold storage vault for film materials**

A further aspect of managing collection storage involves the use of off-site storage facilities. This option is explored by many institutions charged with continually growing collections and in-house space issues. Owing to the size of the AV archives and the constant growth of the society's film production units, it became necessary many years ago to find additional storage at a secure and practical space outside Washington DC. The society currently houses over 75% of its collection at a secure and fully functional facility in rural Pennsylvania. Film assets are held in three storage areas: one climate controlled refrigerated vault (see Fig 3), and a general storage area for text and paper materials.

Practical off-site vaults are an important issue in disaster management and planning as well. Proper disaster preparation is a reality for collections of every kind, which has been evidenced increasingly over the past few years by natural disasters such as the South-East Asian tsunami and hurricane Katrina. Off-site storage becomes a very viable alternative when assessing and developing disaster management plans for any collection repository.

Maintaining an off-site storage facility is a challenge in itself and requires an additional aspect of collection management involving the flow of materials to and from off-site storage, tracking of these assets, additional levels of data management, and collection organisation that occurs out of the sight or direct contact of archival staff. The successful management of off-site collections demands commitment to an open flow of dialogue and communication between in-house and off-site staff to ensure that proper care of materials is taking place. Archive staff is involved currently in assessing, evaluating and recataloguing many portions of historic collections held off-site.

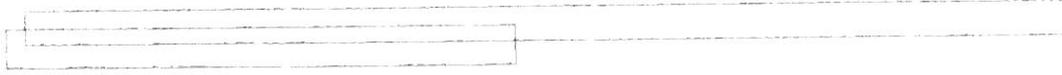


**Fig. 3: Off-site cold vault maintained at 5°C, 30% RH**

### **The Active Archive**

Archives, museums and cultural institutions find themselves today in a world that has embraced all things visual. It is an immense and daunting challenge for institutions holding audiovisual materials to make the collections relevant in such a rapidly changing environment. Keeping up with the quickly changing landscape is difficult for everyone in the discipline. Through multimedia, the World Wide Web and digital technology we have the new and exciting opportunity to reach global audiences in an unprecedented manner. By connecting with audiences internationally through these mediums, the holdings of film archives can be used in projects to educate, promote and communicate. The film collections of the society have attempted to do this through a multitude of projects.

At the core of its functions in the National Geographic Society, the Film Library supports institution-wide projects and initiatives. The most important of the departments supported are the documentary film production and post-production units. The archives is charged with housing, protecting, accessioning and providing access to an ever-increasing generation of new and legacy materials that serves to feed the various platforms now supported by National Geographic content. The use of the archives in this respect is multidimensional.



The staff supports television, film, and the society at large by functioning as an active library for film, video, and audio materials. A significant portion of the collections has been set aside for this purpose, and a constantly active circulation and loan unit fulfils the ever-increasing need to view, listen to, and use footage in multimedia projects. Duplication and loaner copies exist to fill this demand, while keeping and preserving original and master material. A full service facility exists in the department to create new viewing and loaner copies on an 'on demand' basis.

Additionally, this duplication facility exists in order to serve clients outside the society. The library creates master quality material for broadcasting and high-end use (see Fig.4) in media outlets such as documentary film production, television broadcasting, commercials, and large-screen feature films, to name a few. A team of researchers and staff is dedicated to assisting outside users in finding desired footage for their projects. Museums, universities, and cultural heritage institutions world wide have worked with the society on a myriad projects involving audiovisual elements. Museums and institutions collaborating with the society recently on film based projects include: the National Gallery of Art; the American Museum of Natural History; the Museo de Las Americas; the Children's Museum Of Indianapolis; and the Science Museum of Minnesota.

The archives works with numerous production companies that produce visual media for museums. Recently, the department worked with production company Boston Productions to access footage for use with the new exhibits of animal halls at the Philadelphia Zoo. This project was particularly challenging, given the zoo's desire to use high definition footage in the exhibit. This newest technological broadcasting medium presents many issues for archives consisting of film based or analogue video material. For the best results, the transfer of footage to HD requires returning to the original film-based source material, and extensive work is needed to manage and supervise the handling of camera originals. A good deal of archival research is required in order to find the correct footage for any given project. Whenever possible, the archives uses this type of project to work with the end user to supply footage of the best quality possible, while also using it as an opportunity for investment in the collection and in its migration to newer formats. Communication on every level is a key element when working on any production or stock footage based project. Potential users have to work very closely with archival researchers, sales staff, and archivists in order to make sure that the correct footage with the desired specifications is provided for a desired project.



**Fig. 4: In-house duplication lab**

As part of the mission of the National Geographic Society, education is at the core of every project. The archive continues to be accessed for footage to be used in the educational market. A departmental production unit produces small segment pieces using archival footage in projects with middle school and high school textbook publishers. DVDs supplement school textbooks with these specially edited pieces, and the content has been distributed not only through textbook publishers, but through the World Wide Web via content providers such as AOL, Yahoo, and MSN. The non-profit nature of the National Geographic is such that the revenue generated by the sale of archival stock footage is used by to support continued scientific research and exploration. In this structure the archives has the opportunity to apply some of the funds generated through stock footage sales and production to preservation and conservation programmes. In this way the archive can continue to accomplish projects that meet institutional goals.

#### **Access: The Archives in the Digital Age**

Digital technology has led to widespread changes throughout society over the past few years. In this respect, high consumer demand for digital media materials has placed moving image archives in an unique position. These institutions have, as never before seen, the possibility of collections becoming an integral part of the user experience (Besser 2002). In the light of these digital developments, the society has funded a large-scale project to preserve and manage its collections digitally. The key component of this is the ability to allow audiences to access these images from both in and outside the society.

Converting film to digital is an immense challenge, and the integration of a media asset management system has been utilised to serve the ingestion and migration of data files. Both compressed and uncompressed files are generated, and a variety of metadata schemas are used to support the various user modules. One year into the project, the archives has over 400 hours of content that has been digitised. The department's website was launched in April 2006 as a segment of [nationalgeographic.com](http://nationalgeographic.com), and will be the outlet for which archival footage is streamed and viewed by the general public (see Fig 5).

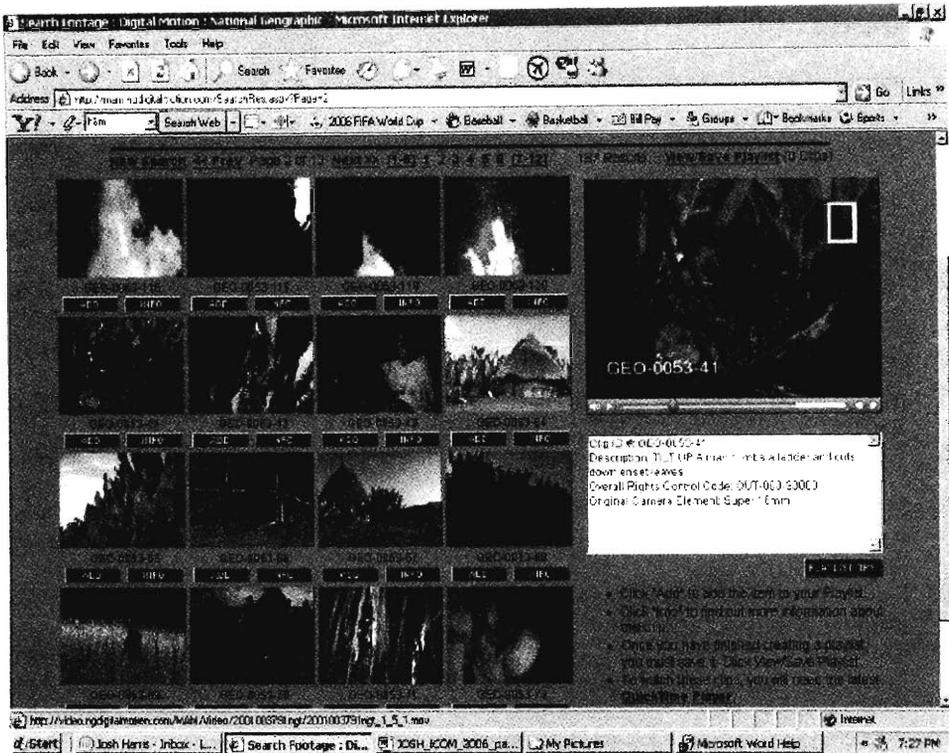


Fig. 5: Example of clip level search from ngdigitalmotion.com

Figure 5 demonstrates the value of such a system for archival access. Users have the ability to search by topic, geographic location, theme, etc. Users can create individual play lists and can access archival metadata on these files. It is hoped that this will spur interest in the footage held in the archives and help reach global audiences. In turn, it will allow potential users of the footage a remarkable resource for researching and viewing a largely unknown archive of more than 100 years of diverse visual imagery. In this way, it will allow museums, universities, and cultural heritage institutions the possibility to locate and retrieve audiovisual material for their projects (Harris 2005).

### Conclusions

As a participant in exploring diversity, history, and cultures world wide, the National Geographic Society has continued to strive to commit itself to the preservation and conservation of natural and cultural heritage world wide. The film archive of the society has itself engaged in active participation with archives and collections on a global scale. It is through collaboration and active involvement that archives and museums can uphold their mission-based principles to educate while preserving the historical memory entrusted to them.

As discussed, the volatile nature of film and photographic materials puts them at risk in all the climates and in all the locations around the world. The digital age has provided archives not only with a means for future preservation, but a platform for presentation to the general public, thus filling a void and taking collections off the shelves and into the home and school. It is this availability that makes audiovisual collections a vital resource for education and information. Proof of the importance of visual heritage through its dissemination will preserve these artefacts and their educational value well into the future.

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## Appendix A: Selection of Historic National Geographic Films Referenced

1. *Ziegler Polar Expedition 1903* National Geographic Society. Ziegler Arctic expedition.
2. *Valley of the 10,000 Smokes 1915-1919* National Geographic Society. Griggs expedition to Mt. Katmai Volcano
3. *Pavlof Glacier 1929* National Geographic Society. NGS research project; mapping expedition to Alaska, Mt. Pavlof volcano area.
4. *Antarctic/Gould 1929* National Geographic Society, University of Arizona. Plotting Antarctic glaciers, mountains, geology studies.
5. *By Way of Cape Horn & Cruise of the Joseph Conrad 1929-1932* National Geographic Society, Capt. Alan Villiers. Voyage from Great Britain to Australia around Cape of Good Hope.
6. *With Byrd at the South Pole 1928-1930* National Geographic Society, Adm. Byrd
7. *South American Flight 1930*. National Geographic Society. NGS photographic survey from Washington DC to Santiago, Chile via Argentina
8. *Citroen-Haardt Expedition 1930-1932* National Geographic Society. Citroen-Haardt Trans-Asiatic Expedition.
9. *Stratosphere Flight- Explorer II 1935* National Geographic Society. Manned flight to highest upper altitude to date.
10. *Aboriginal Australia 1948* National Geographic Society. Study of Aboriginal culture, flora and fauna.
11. *Guatemala 1945* National Geographic Society. Research expedition to Guatemala.
12. *Exploration in Nepal. 1949*. National Geographic Society. Volkmar Wentzal and Dr. Dillon Ripley (Smithsonian) research trip to Nepal.
13. *Southeast Asia. 1950*. National Geographic Society. Research expedition to Thailand, Laos, Burma, Cambodia, Java, Bali
14. *Lost City of the Maya. 1957*. National Geographic Society. Yucatan archaeological research.
15. *Calypso. 1959* National Geographic Society. Jacques-Yves Cousteau early underwater footage.
16. *Exploration Into Man's Past. 1961-1962*. National Geographic Society. Louis Leakey research at Olduvai Gorge.
17. *Gorillas 1963 trip footage, Mountain Gorillas. 1966*. National Geographic Society. Dian Fossey research project on gorilla behavior in Virunga Mts.
18. *Americans on Everest. 1966*. CBS. First National Geographic Special. Narration by Orson Wells.

## Dueling Transistors: Preserving the SalMar Construction and the Legacy of Electronic Music in the Americas

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Presented at the IASA 2006 Conference, Mexico City, Mexico

Preserving the surviving documents of early electronic music is a challenge for archivists in the 21<sup>st</sup> century. The SalMar construction, developed at the University of Illinois by Salvatore Martirano in the 1970s, is an example of the use of pioneering technology to create music in the emerging and complex field of artistic expression. The preservation of the SalMar involves the creation of a model that follows archival principles. The tools, techniques, and musical works complement each other and provide a complete representation of the composer, his creative process, and the impact of technology in his career and his music. Current practices such as recording reformatting will only provide long-term access to a portion of this collection and will ultimately erase other components of the historical record.

Electronic music was born from the development of music performance techniques that sought to expand an existing but limiting palette of sounds available to composers only through the use of traditional music instruments. Archives and special collections libraries around the world will soon find the physical carriers of these compositions amongst their holdings, and no plan for its preservation and long-term access. The Sal-Mar Construction is one of the many cases in which pioneering technology was used to create music, and, even though styles and techniques have evolved since its invention in the early 1970s, it documents an era of focused research in the application of computational technology to the creation of musical works. Preserving the SalMar construction will enable new paths in our quest to rescue our cultural heritage from oblivion.

The creation and use of electronic music emerged after World War II when recording technology became readily available to musicians and composers. The first electronic music studios developed to create this new form of music were housed in several national radio stations and universities in Asia, Europe and the Americas. Pioneering work in France was led by Pierre Schaeffer and Pierre Henry at the French National Radio starting in 1948 and a similar studio was also established in New York's Columbia University in 1951 by Otto Luening and Vladimir Ussachevsky. Throughout the 1950s, similar research and composition centers were established in Cologne (1952), Tokyo (1953), Milan (1955), Warsaw (1957), London (1958), Santiago, Chile, (1958), the University of Illinois (1958), and Argentina (1959).

Two distinct styles of electronic music evolved from these early studios. *Musique Concrète* developed in Paris, France in 1948 utilized sound sources that were recorded from the composer's surroundings such as a busy street, a forest, or a coffee shop, and spliced together into a single performance event. The manipulation of these disparate sounds instilled a spontaneous character to these music creations. For the first time composers had the possibility of working with sound "frozen" in time: manipulate it, cut it, and turn it around to fulfill their creative needs. *Elektronische Musik*, initiated in Cologne, Germany in 1952 utilized sound sources that were created by the composer using electronic synthesizers and oscillators. This technique provided the composer with total control of the creative process right down to the manipulation of the work's basic individual sounds. In both of these cases, the creation and final performance of the work was dependent on electromechanical instruments, which takes away the traditional model of writing a musical work on a piece of paper to be kept for future generations. Both of these creative trends were followed by composers around the world and they are still in use today.

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Twentieth-century composers continually sought out new techniques, tools, and media to express their creativity and musical thoughts. Electroacoustic music, the most common term associated with these new compositional techniques, refers to all music that involves manual and computer-assisted manipulation of recorded sounds. The evolution of these new composition techniques eventually lead to musical works produced solely by computers and digital sound generators. The expansion of sources and musical notation beyond the printed music and acoustic performance redefined the concepts of melody, harmony and rhythm associated with traditional music composition and performance in the late twentieth century.

### **Salvatore Martirano (1927-1995)**

Salvatore Martirano or Sal, as his colleagues and students called him, was born in Yonkers, NY in 1927 and died in Urbana, IL in 1995. He was a professor of composition at the University of Illinois' School of Music from 1963 until his retirement in 1995. He is most known for his contributions to computer music technology, mainly the Sal-Mar Construction which he completed in 1971. This was the first musical electronic instrument of its kind: it is essentially a sound system that utilizes analogue modules driven by digital circuits in order to create spontaneous improvisatory compositions. It is played through 24 independent speakers that hang from the ceiling at different heights above the audience adding mobility and spatial qualities to the sonic experience. The Sal-Mar measures 8' x 4.5' x 2.5' and weighs 400lbs. Martirano traveled with the Sal-Mar Construction on tour to different concert venues in Europe and the United States. Even though the SalMar was considered as "portable", Martirano always travelled with at least two assistants to take apart, rebuild, and troubleshoot the SalMar for each individual performance.

The Sal-Mar Construction travelled as far as Paris, France where Sal spent a year in residence at the Institute for Research and Musical Creation (IRCAM) in 1982. This residence constituted a high point in Martirano's career as a composer and experimental music scholar. The IRCAM, being one of the most important institution for research in avant-garde and electronic music, and a place where standards for electronic music and audio processing are dictated, allowed Martirano to bring together his own research on electronic music and the expertise found at the institute's facilities.

Aside from works to be performed with the Sal-Mar Construction, Martirano's music made use of a wide variety of compositional resources such as theatrical and mixed-media works, live electronics, and traditional musical instruments. Among his most renowned works are L's G.A. (1967), a politically charged multimedia work<sup>1</sup>; *Underworld* (1964-65); improvisational works using the Sal-Mar Construction like *Look at the Back of My Head for Awhile* (1978); and instrumental works for different ensembles like *Isabella* (1993) for orchestra.

### **SalMar at Illinois**

Even before the establishment of the studios at Illinois *ILLIAC Suite*, the first computer-generated musical work, was composed by Lejaren A. Hiller and Leonard Isaacson and was premiered at the Urbana Campus of the University of Illinois in 1956. This seminal piece set the stage for electronic music composition in the United States during the 1950s and 60s, and it also laid the groundwork for the creation of the School of Music's Experimental Music Studios in 1958, the first of their kind in the United States. During these early years such composers as Lejaren Hiller, Kenneth Gaburo, Herbert Brün and Salvatore Martirano were instrumental in the development of electronic music at the University of Illinois. Through the creative use of newly emerging automated technologies these individuals sought exciting

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<sup>1</sup> L's G.A. was composed for gassed-mask politico, helium bomb and two-channel tape recorder.

new possibilities for music performance from their interdisciplinary research in computer science and music. Hiller and Gaburo left the University in 1968, but Brün and Martirano continued their music experimentation and teaching at the University until they retired in 1987 and 1995 respectively.

Sal Martirano's work encompasses a wide range of electroacoustic music genres conceived and performed within a digital environment. From synthesizing sounds to manipulating pitch and rhythm this music can rarely be transcribed on paper and meaningfully described using standard descriptive practices. The lack of a standardized system of notation for most 20<sup>th</sup>-century electroacoustic music illustrates the challenges of accessibility and description we face for this music. Unlike the written scores to Mozart symphonies, Bach cantatas and Sousa marches that enable us to render new performances of these works as close as they were intended by their creators, it is impossible to access the sounds of Martirano's *Look at the Back of My Head for Awhile*, as one of many examples from this collection, without using the Sal-Mar Construction and its original configuration of sound generators and logic circuits as it was used by its creator at that time<sup>2</sup>.

In this particular case the work was essentially assembled during the performance utilizing a mixture of traditional music instruments and performers, actors and dancers, mixed visual media, and the computer-generated sounds from the Sal-Mar Construction to create an infinite variation of musical sound and performance art. It is important to highlight the fact that no two performances of the work were the same. There was no established practice that allowed its creator to notate or predict the outcome of each performance of this work. Sounds generated by the Sal-Mar Construction were controlled by an elaborate touch-pad of binary switches that controlled both the sound generators and modulators and the paths to the many hard-coded 6-byte instructional logic circuits<sup>3</sup> hardwired into the matrix of sound generators. These instruction sets controlled pitch, rhythm, timbre, articulation, duration and dynamics. Once each performance program was mapped out by Martirano the Sal-Mar Construction produced a spontaneous musical creation. Martirano wrote about the Sal-Mar,

*Though too complex to analyze it was possible to predict what sound would result and this caused me to lightly touch or slam the switch as if this had an effect on the two-state logic. I was in the loop, trading swaps with the logic. Let's face it, there are some things you can't talk about and make much sense. I enabled paths, or better, I steered. To make music with the SMC is like driving a flying bus<sup>4</sup>.*

In December of 2005 Dorothy Martirano approached the Sousa Archives and Center for American Music at the University of Illinois at Urbana-Champaign with a desire to preserve the Sal-Mar Construction and the creative legacy of her late husband. She had been contacted by other institutions in the past, but felt her husband's papers and the Sal-Mar Construction had an immediate connection to the community and the University that could not be broken. The collection contains original music manuscripts, photographs, sound and moving-imagery

<sup>2</sup> Composers and students at the University's School of Music have been perpetuating the story that Martirano used spare parts from the ILLIAC computers to build the Sal-Mar Construction and enhance other equipment at the Experimental Music Studios. This might be true. Nevertheless, the operating instructions and user's manual lived in the composer's head and it is our professional duty to preserve any documentation about the Sal-Mar Construction and the instrument itself in order to recreate Martirano's music.

<sup>3</sup> 6-bit logic circuits were used to create asymmetrical programming outcomes essential for the spontaneous creation of music on this instrument.

<sup>4</sup> The Composer in the Computer Age – V: A Salvatore Martirano Retrospective: 1962-92. Baton Rouge, LA: Centaur Records, 1995.

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recordings in diverse formats, the Sal-Mar Construction, and early digital files and programming schematics documenting Sal's career as a music innovator, composer, conductor, teacher and performer during the second half of the 20<sup>th</sup> century. With the exception of the more traditional paper-based records the eventual acquisition of Martirano's electro-acoustic documents and artefacts will stretch the boundaries of the more commonly used archival descriptive and preservation practices at the Center for American Music.

### Preservation Concerns

The music produced by the SalMar Construction, as well as the majority of other electro-acoustic compositions, presents special challenges to current preservation practices. Electro-acoustic music, unlike other mediums of composition and performance, often renders music performances without the aid of written notation and "traditional" musicians playing musical instruments. In the case of the SalMar and other improvisational compositions each performance encompasses a single virtual event that exists only at the time of its "instantaneous" creation. Electroacoustic music, on the other hand, is recorded at its point of origin, transforming it into born-digital music. These two practices pose a common set of preservation problems that archivists must resolve to ensure their long-term access.

As I mentioned earlier, these extemporaneous performances are often recorded as a form of historical documentation, thus sacrificing the spontaneity of these events. While these recordings provide authentic and reliable renderings of these original performances given at a single point in time, the evidential, informational and intrinsic value associated with each unique event has been diminished by the act of recording it. Composers like Salvatore Martirano built on early electroacoustic creative techniques developed at the University of Illinois to give sound a physical form and the ability to move within a given physical space.

On the other hand, describing the vapor-like creations produced by the Sal-Mar Construction is problematic if we rely on traditional descriptive strategies for historical artifacts. Current descriptive practice focuses on the work and the carrier, that is the composition and the format in which that musical work is made accessible to users. A third element, new to today's descriptive practice, focuses on the realization of the actual performance of that work. Richard Smiraglia has written extensively on the importance of bringing this third element into today's descriptive practice for music<sup>5</sup>. Bibliographic description rules prescribe the need for a full description of the sound carrier and some characteristics of the musical work by using uniform titles and subject headings. This standard is entirely inadequate for the description of such performance works as *Look at the Back of my Head for Awhile*. There are currently no metadata standards for the description of electronic music, and those standards that are used by libraries and archives are adaptations of other metadata models such as Dublin Core and Metadata Object Description Schema (i.e. MODS) typically associated with digital image library environments. The development of a descriptive metadata standard for electroacoustic music must include together the description of the work, the carrier, and the realization of that artistic work. This is crucial for documenting and preserving the spontaneous nature of this particular practice of 20<sup>th</sup> and 21<sup>st</sup> century music. As research is conducted to develop such a descriptive standard for electroacoustic music it is equally important that we consider how the Functional Requirements of Bibliographic Records may be implemented for other models of description.

In addition to the challenges associated with the description of electroacoustic music and specifically the 20<sup>th</sup> century artistic creations related to the Sal-Mar Construction, there are

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<sup>5</sup> Thomas, David H. and Richard P. Smiraglia. *Beyond the Score Notes*, 2nd Ser., 54.3: (Mar., 1998), pp. 649-666; and Smiraglia, Richard P. *The nature of "a work": implications for the organization of knowledge*. Lanham, MD: Scarecrow Press, 2001.

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significant hurdles tied to the preservation of the physical and creative artifacts of this early computer-generated music. The hardware and program coding for the Sal-Mar Construction was developed as a single stand-alone system. The music creations from this instrument constitute the most unique documentation of early electronic music in the Americas. Current digital preservation strategies, which include refreshing, migrating and reformatting data, are not applicable to the preservation of the organic products of the Sal-Mar Construction. This music, as well as other compositions from the early stages of electroacoustic music, is becoming extinct due to the technological obsolescence of the equipment used to create it. The intrinsic relationship between the musical instrument and the music produced with it require us to seriously consider the preservation of the instrument as the first step towards a final solution. Without the preservation of the Sal-Mar Construction and its unique coding, hardware, and documentation there would be no primary evidence of early electronic music in the United States.

Questions still need to be answered in order to find an optimal preservation and descriptive strategy for the Sal-Mar Construction, Sal Martirano's music legacy, and 20<sup>th</sup>-century electroacoustic music. Other interested parties, like the electronic records community, have dealt with similar preservation and access issues. Many composers are also facing the extinction of their early electronic music works due to the obsolescence of the media and the constant changes in proprietary software used to create these works. The issues described earlier are also pertinent to areas of research and scholarship where sound recording technology has opened new doors to other cultural expressions or oral traditions. Effective preservation and descriptive standards can be established only through collaborations between creators, users, librarians, and archivists. It is in our best interest to actively seek out new strategies to preserve this unique aspect of America's musical heritage before the duelling transistors of the Sal-Mar Construction and other electroacoustic instruments cease to exist.

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## Depicting Problems and Facing Reality: Archival awareness and developmental obstacles evaluated from an African Point of View

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Between July and August, 2006 I conducted a research journey in the region of *Tigray*, North Ethiopia. Besides my usual recording task of traditional music and culture in the various towns, I also visited historical sites and the state of their safeguarding. Among other things, the obelisks of Aksum (fig. 1), the monastic complex of St. Mary of Zion (fig. 2) and its chapel that houses the mysterious Arc of the Covenant (fig. 3), numerous churches and monasteries, archaeological remains like the Palace of the Queen of Sheba from the 10 century B.C. (fig. 4), old *Sabeian* scripts, the graves of King *Ezana*, and the antiquities museums such as the Palast of Emperor *Yohannes* [1872 – 1889] in the town of *Meqelle* (fig. 5a-b) as well as the archaeological Museum in the town of *Aksum* (fig. 6a-b) are some of the major sites to be visited in this administrative region.

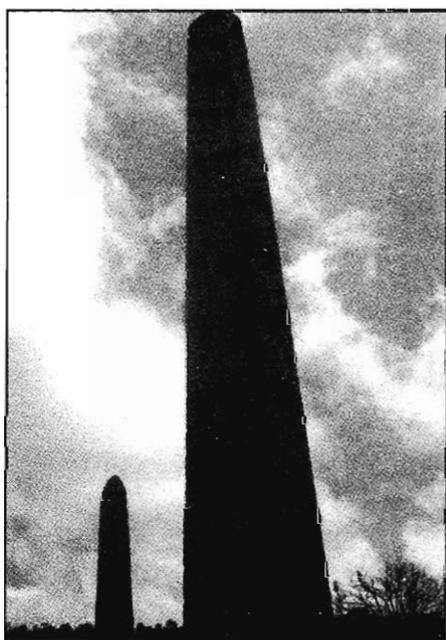


Fig. 1: Axumite Stelae 3<sup>rd</sup> – 4<sup>th</sup> Century <sup>1</sup>

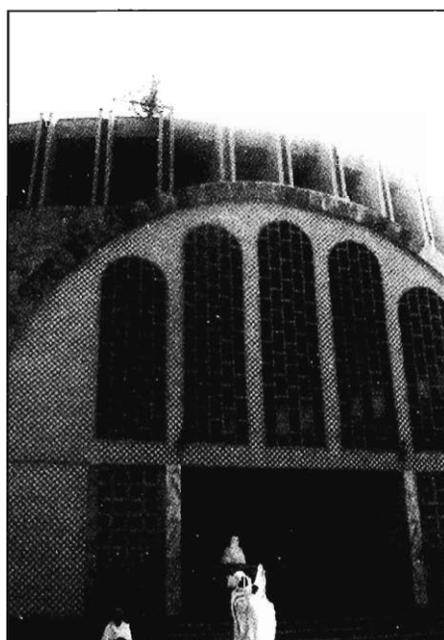


Fig. 2: Zion of Mary Church <sup>2</sup>

<sup>1</sup> The numerous Aksumite stelae belong to one of the unique historical architectures of Ethiopia from the 3<sup>rd</sup> and 4<sup>th</sup> centuries. Photo: Timkehet Teffera 02.08.2006, town of *Aksum*, *Tigray* Administrative Region, North Ethiopia.

<sup>2</sup> The photo shows the new St. Mary of Zion Church in Aksum which was built by Emperor Haile Selassie I in 1945. The old church also named St. Mary of Zion which is located near the new church is a 17th-century building that is still in use. Photo: Timkehet Teffera 02.08.2006, town of *Aksum*, *Tigray* Administrative Region, North Ethiopia.

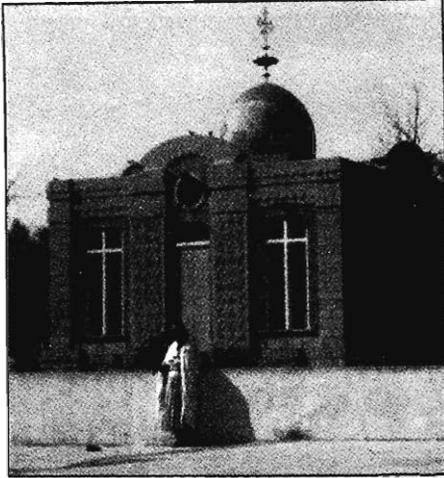


Fig.3 : Chapel in Axum <sup>3</sup>

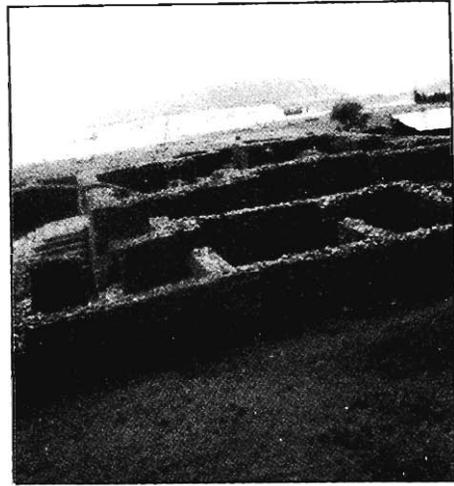


Fig. 4: Queen of Sheba's Palace, 10<sup>th</sup> C. B.C. <sup>4</sup>

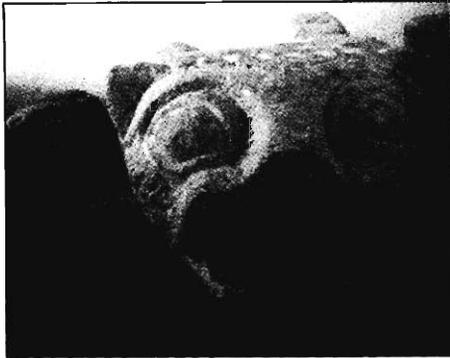


Fig. 5 a-b: Palace of Emperor Yohannes IV <sup>5</sup>

<sup>3</sup> This chapel is the treasury in the town of Aksum housing the biblical the Arch of the Covenant. Photo Timkehet Teffera 02.08.2006, town of Aksum, Tigray Administrative Region, North Ethiopia.

<sup>4</sup> Photos: Timkehet Teffera 03.08.2006, Aksum, Tigray Administrative Region, North Ethiopia.

<sup>5</sup> Pictures show parts of the palace: Photos: Timkehet Teffera 16.07.2006 Meqelle, Tigray Administrative Region, North Ethiopia.



**Fig. 6 a-b: Parts of the Archaeological Museum in Aksum<sup>6</sup>**

One of the tallest of the three ancient carved stone stelae dating back to the *Aksumite* kingdom that was looted on the personal order of the Italian fascist dictator Mussolini in 1937 (Italian occupation 1936-1941), was returned back to Ethiopia in April 2004 cut into three pieces. It has been aimed to erect this famous obelisk back at its original place in the future. This is one of the great efforts made by the Ethiopian government, concerned parties, private, local and international organizations and institutions, as well as the peoples of Ethiopia.

Among the positive changes observed in Ethiopia today, education has been given a great priority. Therefore, a rapidly increasing number of KGs, primary and secondary schools, colleges, universities and training centres have become operational in the past 5-10 years almost all over the country. The effort to create an educated population - as a great sign of development - may thus clearly be observed. The implementation of the market economy since more than a decade has additionally paved a way to private investments that are streaming in the economic and infra-structural sectors of the country.

The Ethiopian government – as observed in the case of the return of the Aksum obelisk mentioned above - also gives attention to enforce the safeguarding of cultural and historical heritages through its regional cultural offices that are administered under the federal government, by Ministry of Youth, Sports and Culture. However, the practical implementation of governmental policies is usually accompanied by various obstacles. First of all, it is doubtful that provided budgets are used effectively to reach their target, apart from the fact that they are relatively low. Other problems reflect the lack of management, administrative or bureaucratic barriers and the lack of adequate trained and/or skilled manpower in the corresponding fields of documentation, preservation and archiving.

Therefore, the significance of historical assets and their timely safeguarding as well as the encouragement of culture in general are for many reasons not developed in Ethiopia to the required standard until present day.

**Institute of Ethiopian Studies:** Apart from the so far discussed issue, my interest during my stay in Ethiopia also focussed on the situation of audiovisual archives. It is well known that such archives all over the world are facing various problems in their efforts to maintain their archival collections in good form.

<sup>6</sup> Photos: Timkehet Teffera 02.08.2006, town of Aksum, Tigray Administrative Region, North Ethiopia.

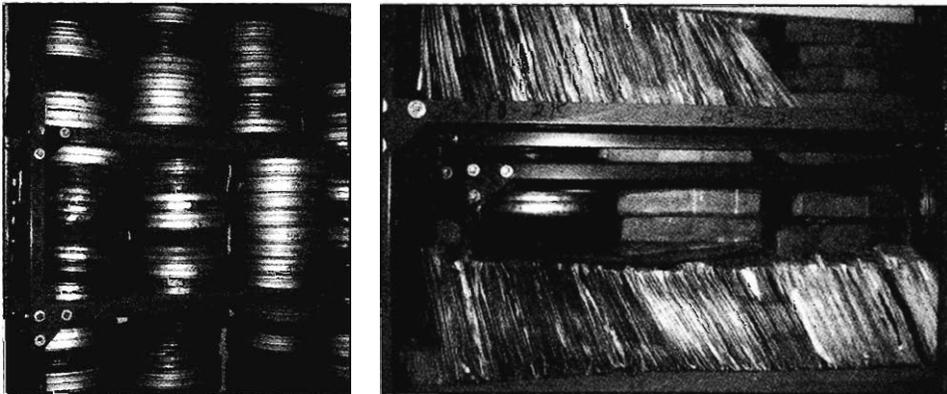
At a time where digitization has become a burning issue, the major problem of the developed world in the process of safeguarding audiovisual collections may primarily be related to the fast development and the rapid changes of technology. Since it is clear that the lifetime of formats usually depends on the commercial benefit of the industry, such archives are continuously dependent on new products offered on the international market.

Compared to the developed nation though, we may imagine to what extent audiovisual archives and their collections in developing countries are in danger. The lack of financial support (i.e. private and governmental) and inadequate climatic conditions are of course the main factors that are often mentioned, but on the other hand, the lack of know-how and the lack of appropriate training facilities needs to be mentioned as well.

The IES at the Addis Ababa University established in 1963 is facing various problems of these types. This institute is the largest and most probably the only research establishment of its kind in Ethiopia. Its quite large museum comprises ethnographic and ethno musicological collections, art gallery, philatelic, coins and bank notes, whereas its exclusive library houses a rich collection of books, periodicals, archival materials and numerous other publications both in Ethiopian and foreign languages.

The third section is the multi-media unit consisting of valuable collections; there are for instance approximately 400 reel-to-reel tapes, numerous records consisting of Ethiopian and foreign songs, approximately 300 – 400 films of 16 and 32 mm predominantly recorded during the reign of King Haile Silasse I. All these collections are of historical significance. Those IASA members might probably remember my paper presented on the IASA conference in Barcelona-Spain in 2005 in titled: *Archives in East Africa: Preservation, Dissemination and User's Perspectives on Archives*.

This paper specifically referred to the major problems of this unit that previously used one part of the cellar rooms within the IES building. Due to administrative reasons and most probably also with the aim of solving the spatial problem, the entire collection was moved around the mid of 2005 to the upstairs rooms (the 3<sup>rd</sup> and last floor under the roof) which are extremely inadequate for preservation, because of the high humidity and unsuitable temperature (fig. 7a-b).



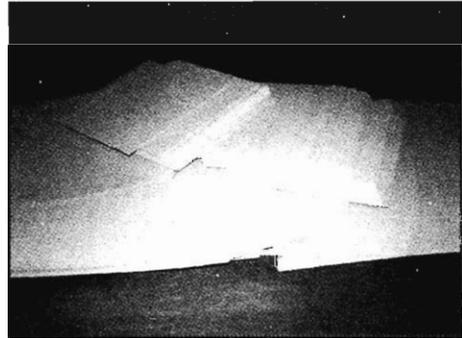
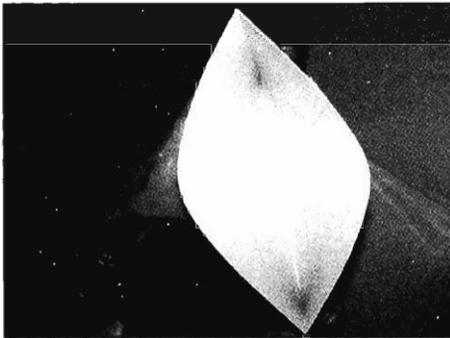
**Fig. 7 a-b: Part of audiovisual collection (films and records) of IES, Addis Ababa University <sup>7</sup>**

<sup>7</sup> Photos: Timkehet Teffera 05.07.2006, IES, Addis Ababa.



**Fig. 8 a-b: Part of the record collection at the IES, Addis Ababa University**<sup>8</sup>

For the sake of their appropriate protection and preservation, I discussed the problem again with the institute's director and the responsible staffs. As a result I purchased 200 carton sleeves of two different sizes from a company located in Berlin-Germany which I finally transported to Ethiopia (fig 9 a-b).



**Fig. 9 a-b: Carton sleeves in two different sizes protective against humidity and dust**<sup>9</sup>

My major task in the process of preserving the collection was primarily based on the physical examination of each record in order to make sure to what extent it is damaged (i.e. scratches, mould, breakage etc<sup>10</sup>). Unfortunately quite a number of records are severely damaged (fig. 10 a-c) so that there is no hope to use them any longer. Therefore, only the records that are in somewhat "good" condition were selected and inserted the carton sleeves. In doing so, the contextual information (i.e. titles of the musical pieces, the performer and the record company) found on the record was written down on the respective sleeve by hand. Simultaneously each sleeve was given catalogue numbers (IES 001, 002, etc.).

<sup>8</sup> Photos: Timkehet Teffera 05.07.2006, IES, Ababa Ababa.

<sup>9</sup> Photos: Timkehet Teffera 05.07.2006, IES Addis Ababa.

<sup>10</sup> I have documented the bad condition of the record collection on video.



**Fig. 10 a-c: Part of the damaged records, collection of IES, Addis Ababa University**<sup>11</sup>

According to the information of my colleagues, at the institute the major part of the collection referring to songs performed by Ethiopian singers has already been digitized a couple of years ago. Of course, I had also received a copy of the digitized songs and these respective record covers which were also scanned and added to the files (fig. 11 a-c), but I still do not possess a list of an explicit digitized records. Therefore, at this stage it is unfortunately still unclear which part is definitely digitized and which not.



**Fig. 11 a-c: Part of scanned record covers showing popular Ethiopian singers**<sup>12</sup>

The so far described damage of this valuable collection will and cannot be replaced. Record companies like ODEON, Kaifa, Amha and Columbia Records do either no longer exist as well as such records are no more produced nowadays (fig. 12 a-b). The sounds and images preserved here and in numerous other institutions of the country are there to help educate subsequent generations about our world and our times. However, if significant parts of these collections deteriorate, the consequences for the historical and cultural understanding of our societies will inevitably be disastrous. Therefore, necessary precautions should be taken before it is too late.

<sup>11</sup> Photos: Timkehet Teffera 05.07.2006, IES, Addis Ababa.

<sup>12</sup> Collection of IES, Addis Ababa University



**Fig. 13 a-b: Record labels Columbia and Amha** <sup>13</sup>

How can we tackle our own problems and pave a way to positive and promising archival developments? What can developed nations contribute to change these unsatisfactory conditions besides funding?

For the sake of maintaining archival awareness, Ethiopian archivists should be made more conscious of the richness of their heritages, but also the potential loss they are going to face, if their audiovisual treasures are in possible danger to disappear. For maintaining the historical task they are being confronted with daily they should be provided with ongoing training programmes and possess basic educational backgrounds at least in related disciplines. The efforts in the process of safeguarding have to be encouraged every time so that archivists can adopt responsibility become visionary and loyal people.

### **Conclusion**

First and foremost the creation of a harmonious working atmosphere is the basic prerequisite for a healthy archival development; i.e. respecting, understanding and accepting each other; avoiding backward mentalities and behaviours; avoiding discrimination and superfluous hierarchies between employees and those in leading positions.

Other important issues to be taken into consideration, are conducting team-works and regular team discussions; exploring know-how from all available sources; widening international contacts; making both governmental and international institutions aware of the need of funds if necessary; maintaining regular contacts with corresponding institutions within Ethiopia and working together hand in hand by exchanging and sharing information and skill etc. For that matter, those assigned to overtake directing positions should play a pilot role in encouraging and fostering their colleagues, giving them the necessary incentives, make them adopt the sense of belongingness and responsibility by avoiding negligence and carelessness.

This is the only method to create the best working condition with visionary and committed citizens, since many young Ethiopians including all my colleagues at the Institute of Ethiopian Studies possess a great potential to learn and explore more. In this way socio-economic backwardness, low level of consciousness and unsatisfactory mental awareness can and will gradually be eradicated.

<sup>13</sup> Photos: Timkehet Teffera 05.07.2006, IES, Addis Ababa.

This being the fact, the people and governmental organs of Ethiopia should also give more attention to the preservation of the country's cultural and historical wealth including a close follow-up that is to be conducted by concerned parties.

## Witness History Unfolding Online: The DR Digital Media Library

Ivan Dehn, Danish Broadcasting Corporation, Copenhagen, Denmark

This paper is based on the PowerPoint Presentation given at the IASA 2006 Conference, Mexico City, Mexico

The Danish Broadcasting Corporation (DR) won a competition sponsored by the Danish Ministry of Education in 2002, to build a new educational concept for the use of audiovisual materials by public schools in Denmark. The DR received €2.5m to develop the project called /skole over a period of two years.

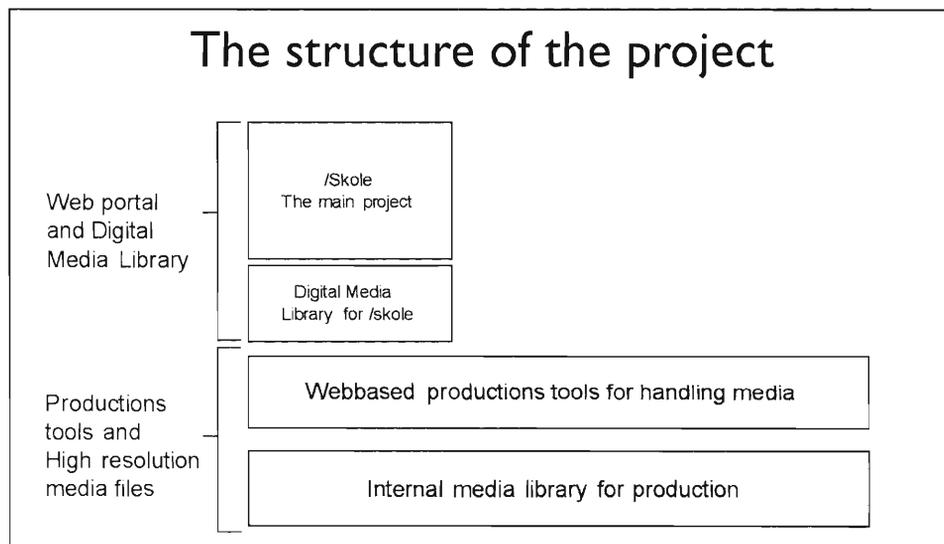
The project was divided into two activities.

1. DR should build a Digital Media Library and a learning portal for the public schools.
2. UNI-C, a government institution responsible for the internet backbone in Denmark, should distribute the content to the schools by building a decentralised network based on a media server in each school.

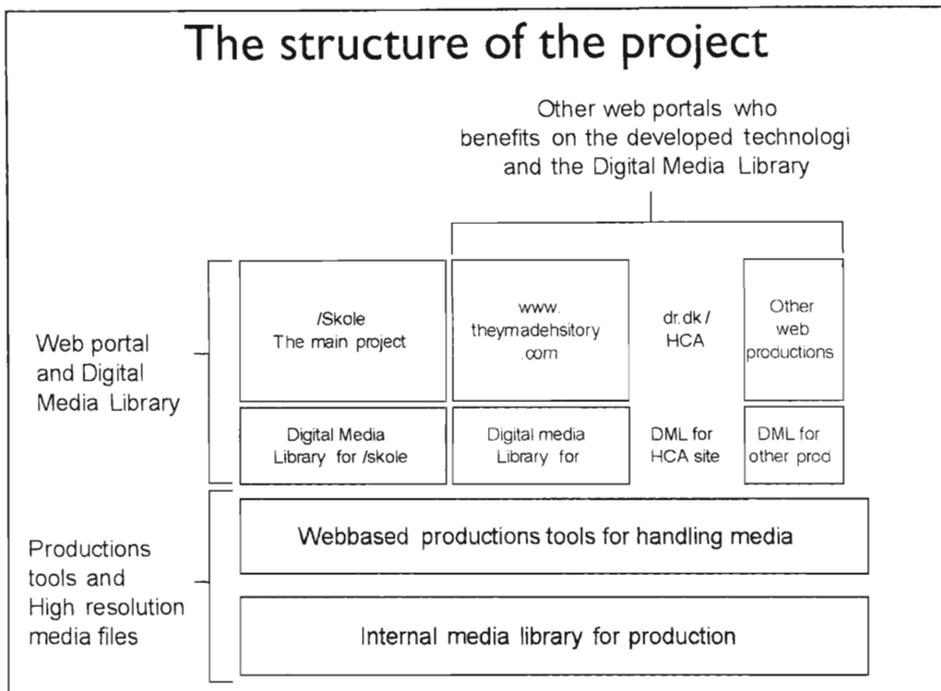
With /skole it has been our aim to develop a new educational and technical means for the digital use of film clips, stills and audio clips from the archives of the Danish Broadcaster. The main idea was to let students from the 1st to the 10th grades work with audiovisual material, taking into account the individual learning process of each student.

/skole offers more than 20 000 audiovisual clips from the DR archives to the students, and the Digital Media Library is gaining 5 000 new clips every year.

There are 1 725 public schools in Denmark, with 575 000 students. Nearly all the schools are well-equipped with computers, and the requirements were for schools that wanted the product to have 100 MB LAN, and at least a 2 MB internet connection.



When DR first structured the project we divided it into four sections: a web portal, with normal web pages and interactive features, a Digital Media Library to hold all the media files for the students. To produce the Digital Media Library we had to develop a set of web based productions tools for handling the media, and lastly, we started building an internal media library to use for media productions to the web.

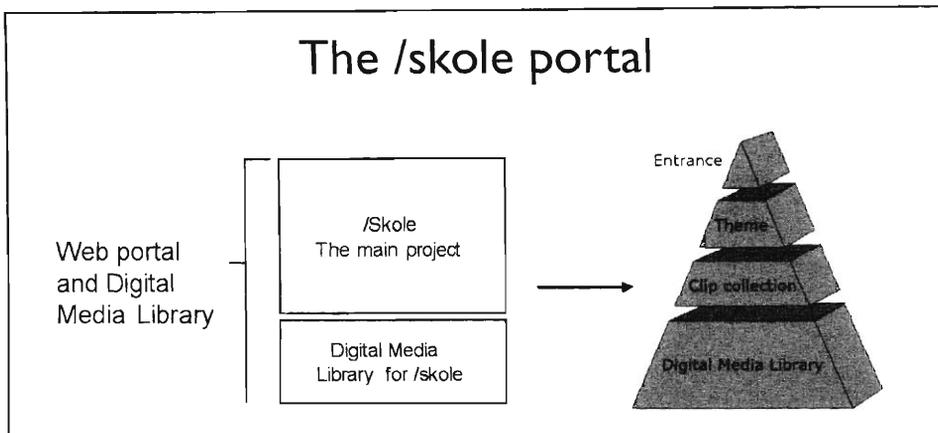


From the start our strategy was to develop the project with the objective to use the technology and the Digital Media Library for other projects and web sites as well.

The foundation of /skole is the Digital Media Library. All the audio and video clips on the website are from the Archives of the DR. The archive is a bit of a goldmine with film, tapes and audio more than a century old. The first moving pictures are a scene from Copenhagen Town hall Square from 1896.

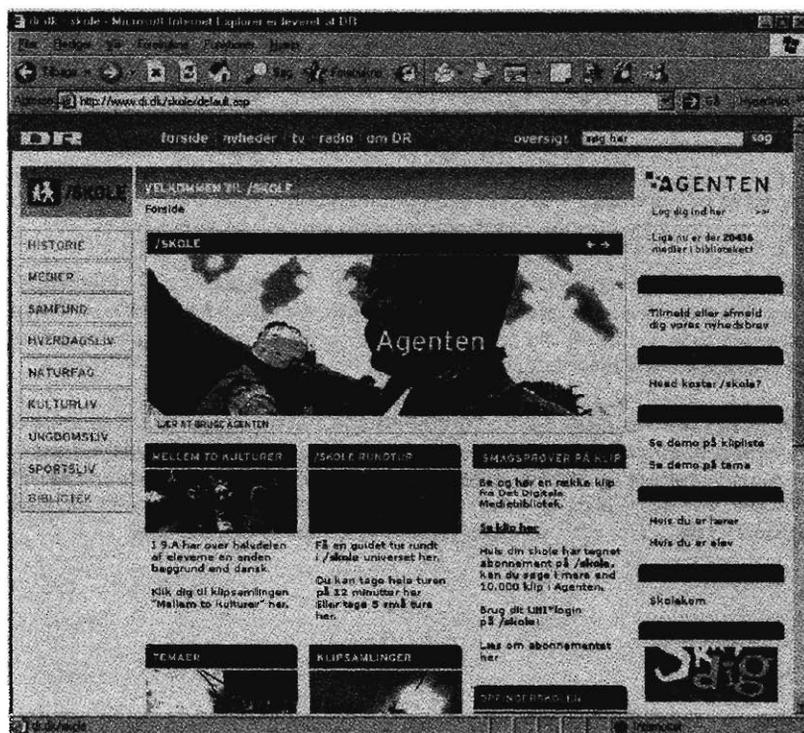
The DR archive contains more than 100 000 hours of film footage and video/audio tapes, which include a huge collection of historical records. The archive contains part of our common history, culture and conscience in Denmark. The Danish welfare model, *The Birth of the Teenager* in the 1950'es, the war in Iraq, the coronation of Queen Elizabeth, and exploring outer space are just a few examples of the clips in the archives.

## The /skole portal



We organized the material in two categories: Themes and/or Clip Collections. Most of the content should be at the bottom of the pyramid, followed by a smaller collection of clips, an even smaller collection of themes and of course a small window to sell the product to the schools. The archive clips are supplemented by interesting teaching courses, teacher guides, student assignments, interactive features and much more. A theme is built around video clips with complementary short texts. A clip collection is a collection of television and radio clips structured on the basis of a specific subject, but with no texts.

The Digital Media Library is the access point for all the clips in the archives.



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We offer material about History, Media, Social Studies, Everyday Life, Nature/Science, Culture, Youth, and Sports. We also offer material about Physics/Chemistry, Geography, Road Safety, Music, English, Sports, Health, Sexual Education and Family Studies.

A Theme will contain extra boxes with other material such as time lines, photos, quotations, figures, graphs etc. In cooperation with our editors, teachers will develop student assignments and teacher guides for both the themes and clip collections. Everything is ready to be used in the classroom. And both the guides and the assignments may be printed. So, a theme would be a ready-to-use educational course.

A Clip Collection is a collection of television and radio clips structured on the basis of a specific subject but with no texts. This allows the teacher the freedom of structuring his own course.

The media material is divided into a number of distinct areas for example history, media, science etc. The media material is used in different themes and clip collections. Teachers and students are able to collect media materials in own personal folders. References to the media material can be used in other applications, such as PowerPoint, word, etc.

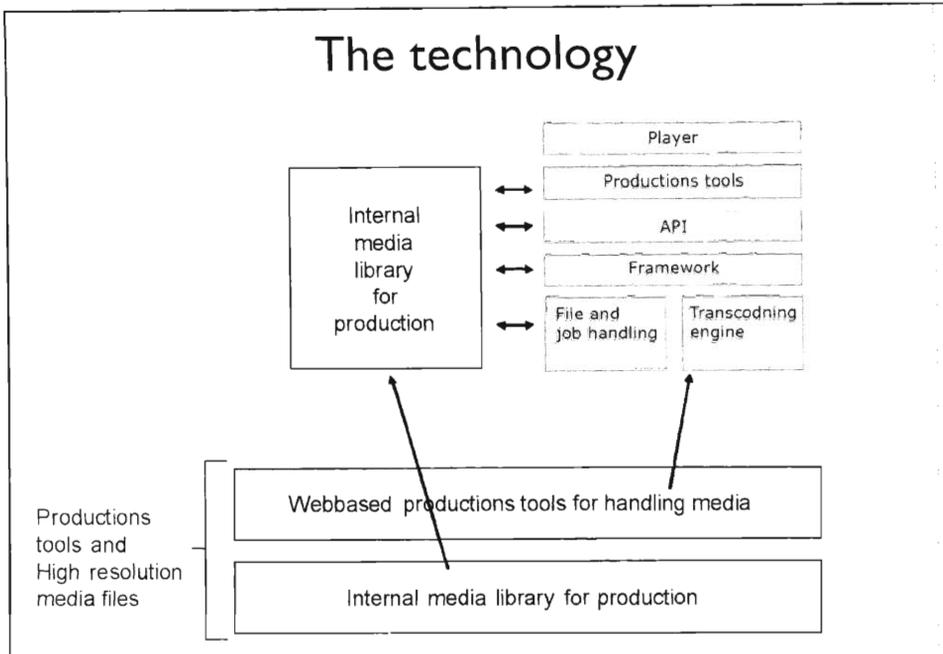
Today 100 of the 1725 public schools have bought a UNI-server. We have sold the product to more than 850 schools in 18 months, which give us a market share of about 75% of the schools who have bought a UNI-server. We have about 320 000 personal users with their own login to the product. We are educating 3 000 teachers to use the product over a period of two years. We are reaching more than half the students in the public schools in Denmark, simply because we sold the product to all the major schools in Denmark.

Let's have a quick look at /skole.

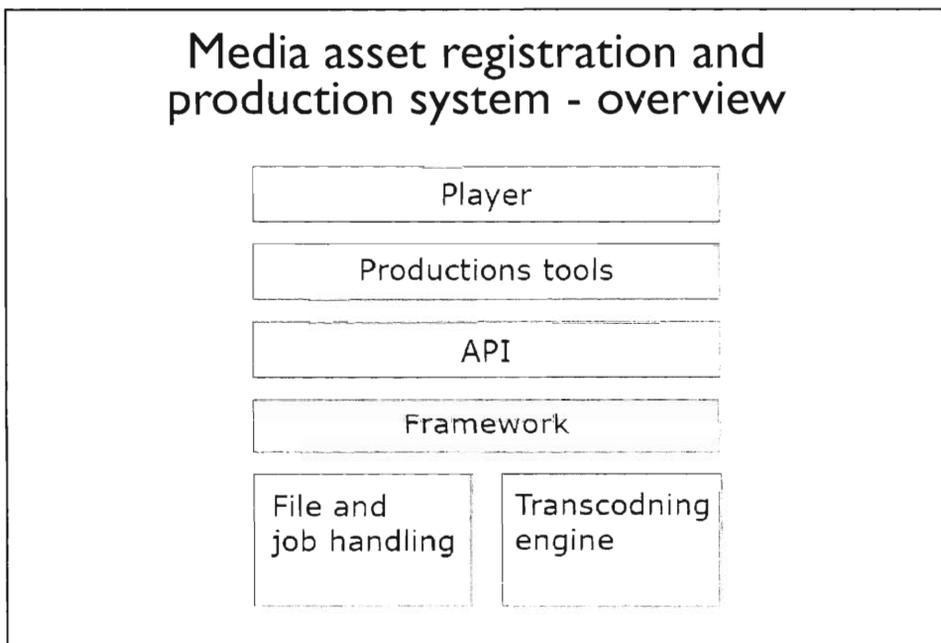
If the user wants to collect clips for use in other situations, the user can store it in his/her own personal folder. To complete the project it requires the build of an internal Media Library by digitizing analogue audio and video tapes. This required the handling of the digital media for production to the web. Which meant the development of an internal media asset registration and production system to export mediafiles to the web. That includes metadata handling, data structure, choice of digital formats, platform, as well as implementing a new workflow in the organization. The creation of an easy-to-use external user access to the media assets had to be developed, or in other words, a player for the students.

There were of course many other challenges including content rights issues, the challenge of selling the product to the schools, and the challenge of getting the teachers to use the system.

At the time we started the project, we weren't able to find a system, suitable for our strategy, thus we decided to create our own web based registration and production system. The system contains libraries, an internal production library and several subsets, of which the Digital Media Library is part. All clips in the system have a high resolution counterpart, which make it possible to re-transcode all clips to new web formats in the future. The interface is user-friendly, and mastering it takes only about three hours. The user can collect media, edit new clips, edit new frames from media, update registration, add new metadata to the media clip, index, and transcode then into the required destination format.

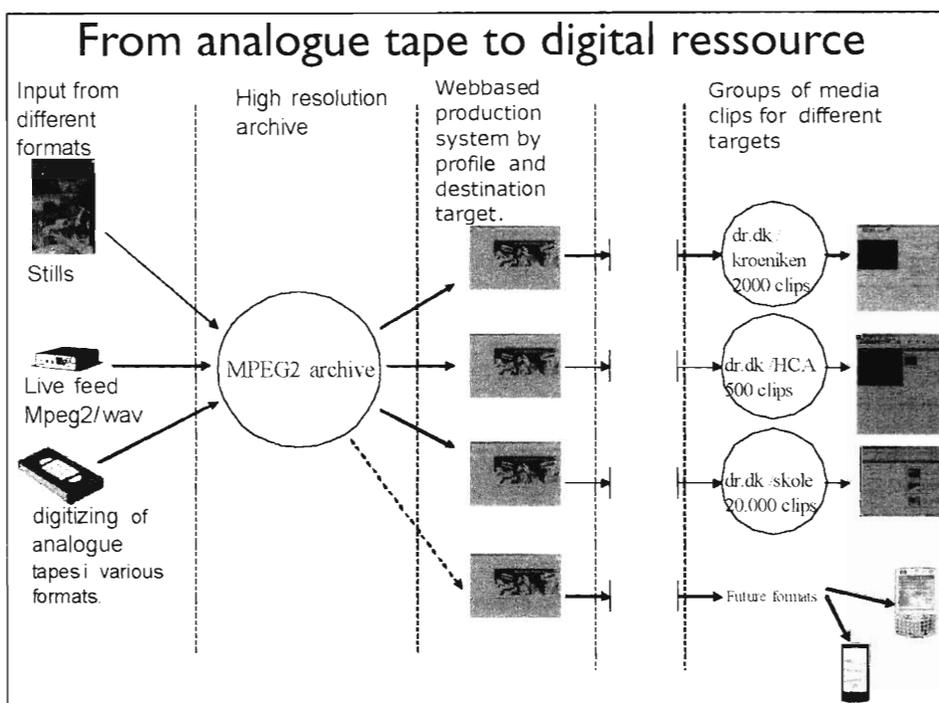


One of our strategies in developing the technology was to separate the file processing and the file handling, so that it is possible to combine the technology with other digital content libraries.



The production system is divided into five parts.

- A scalable web player suitable for use by other DR web productions as well as by other departments.
- To assist with the task of producing video and audio in large amounts to the web, we have built a set of production tools, which will create a personal profile for new clips and fast transcoding for the web and other devices, such as mobile phones, iPod, etc.
- The core of the Media asset registration and production system contains of two services:
  - An API together with a framework to handle the files and data.
  - A file and job handling structure together with a transcoding engine.
- The file and job handling are based on an asynchrony server, which is processing the jobs in the order they are being committed.
- The transcoding has been done with the co-operation of an external company. The transcoding engine can convert a large number of media files in various web formats. It has a high performance and scaleable solution.



An alternative way to look at the system includes the media being digitized into a high resolution archive. The media files can be accessed by a web front-end, where it is possible to produce new clips and stills, which can be exported to various destinations in various formats. This combination of a scalable distribution system, a web-based production system and a "easy-to-use" media asset delivery agent, makes /skole a strong alternative to conventional learning.

The digital media library and the web based production system are ideal for use in other productions, and have been used in a number of web sites on [www.dr.dk](http://www.dr.dk), for example the 200 anniversary of the birth year of H.C. Andersen, a series of interviews of previous leaders and statesmen [www.theymadehistory.com](http://www.theymadehistory.com), and many more.

**Re: Review by Carsten Schmidt in IASA Journal No 28/December 2006, p 78**  
Dr Herfrid Kier, Zülpich

The review of my book *Der fixierte Klang* in IASA Journal 28/2006 affects my reputation among IASA and musicological colleagues. For this reason, I take the liberty of replying.

Most of the students joining my university lessons these days have grown up with digital sound and the relevant carriers. They have little or no knowledge any more of analogue recordings, and some even have difficulty handling long playing records.

I have written my book *Der fixierte Klang* mainly for this generation and not so much for experts in the history of recordings. This is declared clearly in the preface (p 7), but some readers are ignoring this fact, as well as the express explanation that a historian such as the author has to be rather careful when on slippery ground, such as explaining the necessary technical interferences by sound engineers during the recording and duplicating process (p 15-16).

The reviewer claims: '*Unfortunately, the author does not explain what he believes to be a "document" ...*', and later: '*Owing to its vague focus this book can not be compared with the more concise studies ...*'.

The subtitle of my book (*Zum Dokumentarcharakter von Musikaufnahmen ... = On the documentary characteristics of sound carriers...*) indicates that it is my aim to add many generally unknown, important facts to the problematic judgment of how far a sound carrier could be regarded as a 'document'. All in all, my book is analysing which elements are significant for a sound document, leaving out the technical interventions by sound engineers, often accused of being manipulation. Manipulation in the middle of the past century has been one of the most common accusations against sound carriers. Regarding all the 'manipulation' taking place before the sound engineer begins his work, readers will find very sensible thoughts on this subject by Herbert von Karajan (p 279).

My study is empirical research based on my own experience and interviews with leading international artists. It should be seen as a contribution to the growing interest of German musicology in issues of discology. The artists interviewed were chosen on the grounds of their extensive experience of sound recording. It would have been a shame to have missed Yehudi Menuhin with 70 years' experience, or artists such as Dietrich Fischer-Dieskau, Nicolai Gedda, and Elisabeth Schwarzkopf with more than 40 years of studio experience. These are rare contemporary witnesses, and oral history should not be neglected these days.

For this reason I have no understanding of the accusation by the reviewer in saying: '*The results [of the unexpurgated interviews with twelve artists and one with Furtwängler's widow] are arbitrary, and the statements as interesting as any statement from a conversation between connoisseurs...*', and later: '*The interviews will retain its value as documents in terms of the celebrities biographies ...*'.

The rare positive comment by Mr Schmidt refers unfortunately to a gangster in the field of pirate recordings, but not i.e. to a record producer such as Kinloch Anderson, or a historic artist such as Elena Gerhardt, when he concludes: '*... the index of artists' stage or performance names might not be found elsewhere: who knows about Nikos Velissiotis any more?*'.

**West Indian Rhythm. Trinidad Calypsos on World and Local Events Featuring the Censored Recordings - 1938-1940.**

**Ed. by The Classic Calypso Collective. With contributions by Horace Liverpool, John H Cowley, Donald R Hill, Lise Winer, Dick Spottswood, Richard A Noblett. 316pp. (297x297mm)**

**ISBN: 978-3-89916-229-5**

**10 CDs in 5 jewel cases. Boxed set Bear Family Records, BCD 16623 JM. €267, ca. US\$ 286.**

*Reviewed by George Brock-Nannestad, Patent Tactics, Denmark*

The IASA membership has recently been updated on the general situation of the calypso (note 1). That is an introduction in two dimensions: a time axis, and geography. The present work provides a third dimension and it focuses on a narrower interval of time. The third dimension is a complete reissue of calypsos from 1938-40 on CDs and with complete lyrics reproduced in the book. Let me say straight away: I have not digested every page nor listened to every soundtrack: there are 267 tracks and a total of 12 hours 42 minutes of sound, all from the period 1938-40.

However, the work not only covers this narrower interval, it also provides a cultural background, amply illustrated by very clear and readable reproductions of original documents, such as newspaper clippings, recording cards, and photographs. Even very detailed maps of Trinidad and Port of Spain. And a total of 285 labelled photographs in good colour rendition, i.e. many that are outside the given time frame for the reissues. The many local expressions, names, and locations mentioned in the lyrics are explained dictionary-fashion by two word lists ('Glossary' and 'Peoples, Places and Commercial Establishments') near the end of the book. And these lists are so cunningly constructed that for each word there is an indication of the calypso(s) in which it may be found. This makes it easy to find a calypso relating to a particular subject.

There is a preface written by Hollis Liverpool, and it could be printed verbatim as a review of the present work. It is also a splendid short-form introduction to the whole field. Hollis 'Chalkdust' Liverpool is an academic who is also an active local calypso performer. John F Cowley, Donald R Hill, and Lise Winer also have academic titles, and with Richard Spottswood and Richard Noblett, who have long-standing reputations for in-depth discographic work, it is a team that cannot be matched, and without any proper listing in the book we may discern that they make up the 'Classic Calypso Collective'.

John F Cowley (author of 'Carnival, Canboulay and Calypso: Traditions in the Making', note 2) gives a substantial introduction and background in his article 'Calypso and the Trinidad Carnival Tradition' and makes reference to many recordings from 1914 onwards that are not represented in the collection, but which form the environment into which the present collection fits. He collaborates with some of the other contributors regarding the themes elaborated on along with the sequences of song lyrics, and rounds off the presentation with 'Canboulay, Carnival and Calenda' at the end.

Donald Hill concentrates on 'The Music, the Instruments, and the Songs in Calypso' as well as on 'Calypso, Magic, Religion and Folklore'. Richard A Noblett concentrates on the political-historical aspects of 'The Lead-up to War 1935-39' and 'Germany Invades Poland': War Calypsos, 1940' and on the connection to Guyana in 'Decca's Guyanese Recordings' and

'Lord Caresser in Guyana', and he rounds off by describing the move of the Muttoo Brothers Orchestra from Guyana to Trinidad. Richard Spottswood concentrates on the record business in 'Recording for the Decca: Calypsos in Trinidad 1938-1940', the logistics and physical creation of the recordings in this collection.

The discography is chronological according to recording sessions, and for each item gives a serial item number tied to the discography, matrix number, issue number and reissue number (CD plus track) in the present boxed set. There are comments and identification of unanswered questions. However, the timings of the individual selections are available only on the CD inlay cards. The item number is used in the book to identify the lyrics, but this number does not appear in any of the indexes, so it is difficult to go from a title of interest to its lyrics. You have to go to the title index, find the reissue number (CD plus track), then go into the chronological discography to find the item number, then leaf back and forth in the body of the book until you hit on that number in a column of lyrics. Some instructions are given on page 38. You are definitely helped by a clever colour-coding scheme linking the CDs to the relevant section, but the item numbers as such are virtually useless. Nevertheless, the title index should have given not only the reissue number (CD plus track), but also the page on which the lyrics may be found. However, it almost seems ungrateful to make this comment in the face of the astounding amount of information that is made available in the book.

What we have in front of us is an audiovisual representation of a culture, from learning about its establishment and maintenance to hearing its products. This also permits us to get a good impression of the very acute eye for political development, as well as mundane matters that the original artists possessed. Some of the songs are frightening in their comment on the general political situation that Jamaica was on the fringe of on one hand, but still very involved in as a part of the British Empire on the other.

This representation of a very short time span bears astounding witness to the global political awareness among 'common men'. Where traditional thinking might have expected songs about men's problems with women, poverty, freedom, and limitations, we also get incisive and analytical comments on what one might have expected to be peripheral to this society. What about 'Finland' (disc 8, track 21), by Atilla the Hun? 'Dictators are ungenerous, Their actions highly advantageous, By air, sea and land, That's how Red Russia invades Finland' (and two more verses). This was recorded on 3 February 1940, barely two months after the event, and while the local European war was still raging.

The subjects treated are almost encyclopaedic, and a selection deals with the process of recording and distributing records in the face of censorship. This is obviously of particular interest to sound archivists. 'Censoring' (disc 2, track 10), 'The Banning of Records' (disc 2, track 19), and the endearing 'We Want S A Gomes' (disc 3, track 14), referring to the Decca representative hosting the recording events behind the present collection and the largest music, record, and radio store in Trinidad.

The quality of transfer of the 267 tracks seems to be quite uniformly high, which speaks well of the two transfer engineers, John R T Davies (†) and Jack Towers.

The collection is the ultimate source book and primer in one; by entering the brief span of three years from so many angles, not only is the local culture made comprehensible, but one also gets a global view of what living, everyday culture is. As long as anybody is willing to listen to this kind of English with lots of creolisation, these recordings will be a testimony to what sound archiving is also about. And the musical arrangements are a completely separate story that must be mouth-watering to anybody with a wish for a broad selection. The end user is happy.

## Notes

- 1) Linda Claudia de Four, 'Calypso Memories and Institution Building: Preserving the Legacy', IASA Journal No 28, pp 30-41, December 2006.
- 2) John F Cowley: 'Carnival, Canboulay and Calypso: Traditions in the Making', Cambridge University Press, 1996.

## CD Cuts

The following tracks can be listened to from the CD-R included in the Journal. The page numbers refer to the publication:

### CUT 1:

The Censoring of Calypso makes US glad (Philip Garcia)  
Decca Records, Inc. 1938 (un-issued)  
(CD2, track 10), lyrics page 68

### CUT 2:

Finland ( -- )  
Decca Records, Inc. 1940  
(CD8, track 21), lyrics page 230

### CUT 3:

We want SA Gomes (Robert Wilky)  
Decca Records, Inc. 1938  
(CD3, track 14), lyrics page 110

### CUT 4:

The Banning of Records (Raymond Quevedo)  
Decca Records, Inc. 1938 (un-issued)  
(CD2, track 19), lyrics page 85



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- Journal of the International Association of Sound and Audiovisual Archives IASA
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- Zeitschrift der Internationalen Vereinigung der Schall- und audiovisuellen Archive IASA
- El Journal de Asociación Internacional de Archivos Sonoros y Audiovisuales

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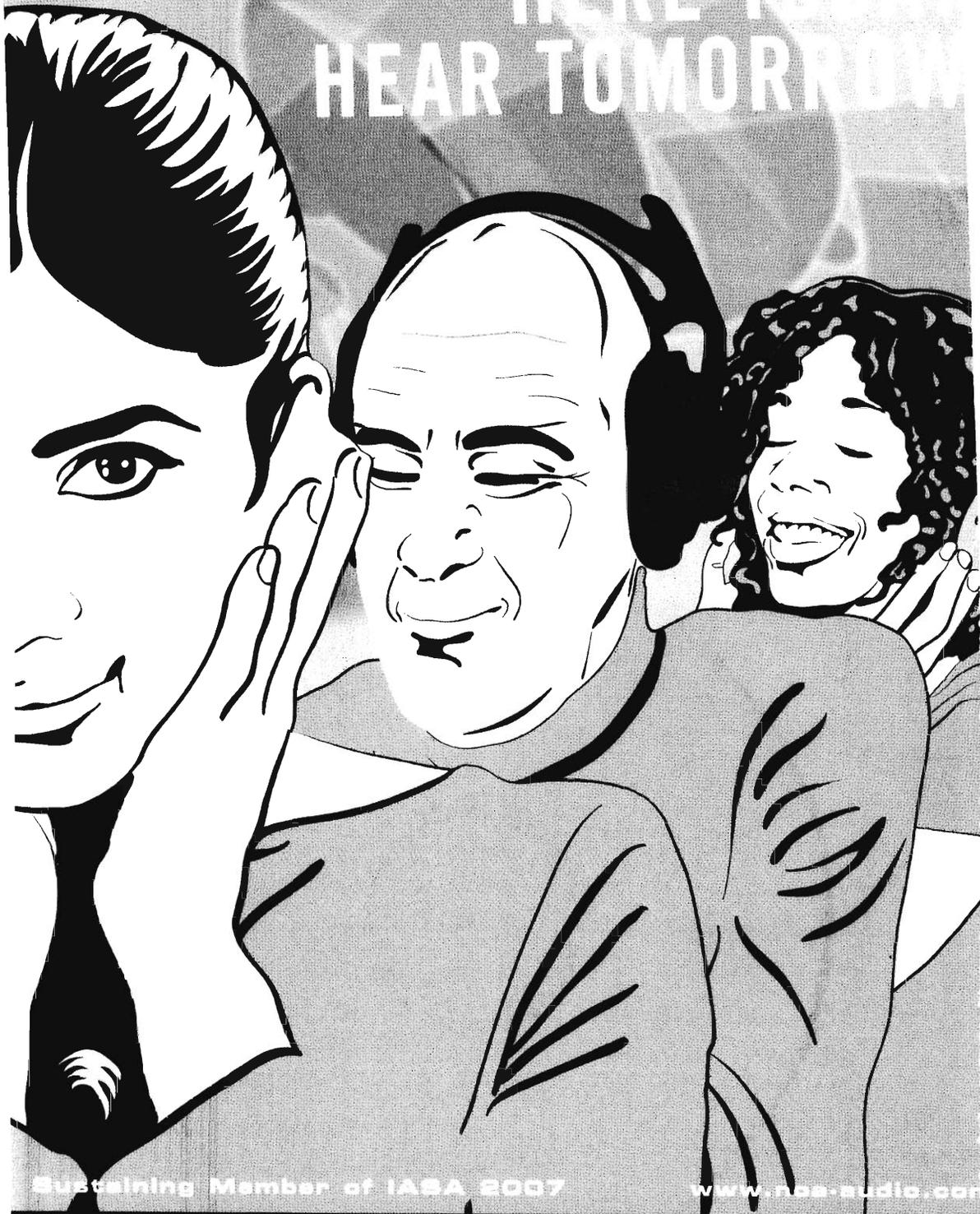
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