

**iasa**

**International Association of Sound Archives**

**Association Internationale d'Archives Sonores**

**Internationale Vereinigung der Schallarchive**

**phonographic  
bulletin**

**no. 54/July 1989**

## **PHONOGRAPHIC BULLETIN**

---

Journal of the International Association of Sound Archives IASA

Organe de l'Association Internationale d'Archives Sonores IASA

Zeitschrift der Internationale Vereinigung der Schallarchive IASA

Editor: Grace Koch, Australian Institute of Aboriginal Studies, PO Box 553, Canberra, ACT 2601, Australia.

Editorial board: Co-editor, Mary Miliano, National Film and Sound Archive, Acton ACT 2601, Australia.

Review and Recent Publications Editor, Dr R.O. Martin Elste, Regensburger Strasse 5a, D-1000 Berlin 30.

The PHONOGRAPHIC BULLETIN is published three times a year and is sent to all members of IASA. Applications for membership in IASA should be sent to the Secretary General (see list of officers below). The annual dues are at the moment SEK 125 for individual members and SEK 290 for institutional members. Back copies of the PHONOGRAPHIC BULLETIN from 1971 are available on application. Subscriptions to the current year's issues of the PHONOGRAPHIC BULLETIN are also available to non-members at a cost of SEK 165.

Le Journal de l'Association internationale d'archives sonores, le PHONOGRAPHIC BULLETIN, est publié trois fois l'an et distribué à tous les membres. Veuillez envoyer vos demandes d'adhésion au secrétaire dont vous trouverez l'adresse ci-dessous. Les cotisations annuelles sont en ce moment de SEK 125 pour les membres individuels et SEK 290 pour les membres institutionnelles. Les numéros précédents (à partir de 1971) du PHONOGRAPHIC BULLETIN sont disponibles sur demande. Ceux qui ne sont pas membres de l'Association peuvent obtenir un abonnement du PHONOGRAPHIC BULLETIN pour l'année courante au coût de SEK 165.

Das PHONOGRAPHIC BULLETIN erscheint dreimal jährlich und geht allen Mitgliedern der IASA zu. Aufnahmeanträge für die Mitgliedschaft bei der IASA sind an das Sekretariat (Anschrift siehe unten) zu richten. Die Mitgliedsbeiträge betragen derzeit SEK 125 für individuelle Mitglieder und SEK 290 für Institutionen. Frühere Jahrgänge des PHONOGRAPHIC BULLETIN (ab 1971) sind auf Anfrage erhältlich. Der Bezugspreis der PHONOGRAPHIC BULLETIN für Nicht-Mitglieder beträgt SEK 165.

### **THE EXECUTIVE BOARD OF THE INTERNATIONAL ASSOCIATION OF SOUND ARCHIVES IASA**

President: Helen P. Harrison, Open University Library, Walton Hall, Milton Keynes MK 7 6AA, Great Britain.

Vice-Presidents: Dr Ulf Scharlau, Süddeutscher Rundfunk, Archivwesen und Dokumentation, PO Box 837, Neckarstrasse 230, D-7000 Stuttgart 1, Federal Republic of Germany.

Magdalena Csève, Hungarian Radio, Documentation, Bródy Sándor u. 5-7, H-1800 Budapest, Hungary.

Hans Bosma, Gruttoweide 215, NL-6708 B6 Wageningen, The Netherlands

Secretary General: Jean-Claude Hayoz, Radio DRS, Studio Bern, Phonotheek, Schwarztorstrasse 21, CH-3000 Bern 14, Switzerland.

Treasurer: Anna Maria Foyer, Sveriges Riksradio, Programarkivet, S-105 10 Stockholm, Sweden .

Editor: Grace Koch, Australian Institute of Aboriginal Studies, PO Box 553, Canberra, ACT 2601, Australia.

© The International Association of Sound Archives IASA

Printed in Canberra, Australia

No part of this issue may be reproduced in any form, by print, photoprint, microfilm or any other means without written permission from the publisher. Signed articles and reviews represent the opinions of the authors and do not necessarily reflect the policies of the Association.

ISSN 0253-004X



## EDITORIAL

*Grace Koch*

This issue focusses upon technical matters within sound archives. We have two complementary studies about storage costs in archives, documentation about a most elegant system of cassette retrieval for broadcasting, a warning about the malodorous "vinegar syndrome", and reports and comments about the Joint Technical Symposium held in Berlin (West) in 1987. I appreciate the practicality of the articles, and I am sure sound archivists will find them most helpful.

This year, IASA celebrates its 20th birthday, and the listing of IASA correspondence presented by Rolf Schuursma enlightens us about some of the trials and successes of our beginnings. Several distinguished colleagues will find themselves listed in the pages of the unfolding IASA story. We look forward to a grand birthday celebration at Oxford.

To our delight, the *Phonographic Bulletin* is becoming an interactive journal. We have a commentary following the article on copyright, and a letter to the editor about a review in the last issue. Other points of interest are the impressive possibilities for training initiated by the French and a most though-provoking article on evaluating discographies. The Reviews Section will be of special interest to discographers.

Several congratulations are in order. We commend the work of AGAVA in their new journal, *Das Audiovisuelle Archiv*, and we recognise several IASA faces in the photographs of the Vienna IASA Conference. Again, we congratulate IASA for 20 years of hard work. And finally, we offer our best wishes to Co-editor Mary McMullen, who has now become Mary Miliano.

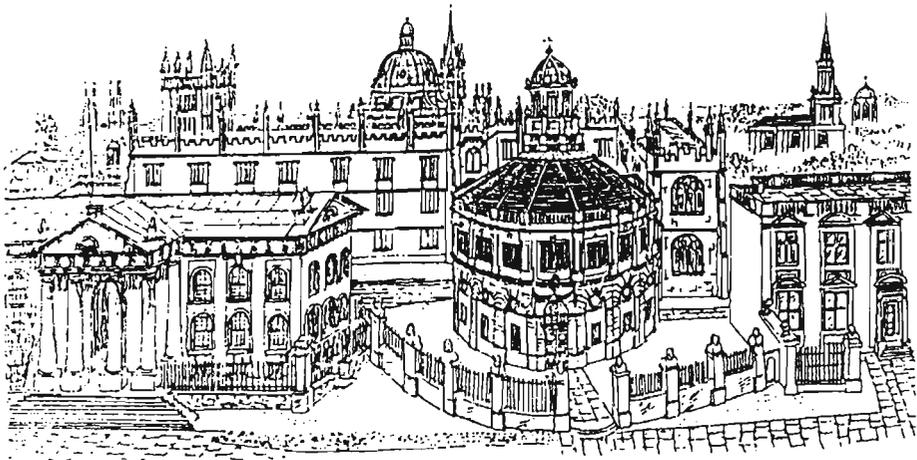
Please may we urge all people giving papers at the Oxford Conference to prepare a copy for the *Bulletin*, and if you have photographs of illustrations, to provide us with black and white copies as well. We look forward to seeing you there.

---

# LAMC/LASA CONFERENCE

27 AUGUST - 1 SEPTEMBER 1989

**Oxford, England**





## Preface

*Dietrich Schüller*

During the Joint Technical Symposium "Archiving the Audio-visual Heritage", Berlin, May 1987, Dietrich Schüller summarised his paper "Data Density versus Data Security" <sup>1</sup> as follows:

The unreflecting increase of data density as a goal in itself is senseless. Up to a certain point smaller carriers are practicable and desirable especially by those who are on the production side (such as the ENG people). Beyond a certain point, however, miniaturization becomes questionable. The superficial advantage in terms of storage requirements and the building and maintenance costs involved have to be offset against the costs arising from problems of possible data insecurity. Economists are challenged to calculate the costs of long term preservation including the costs of subsequent transfer of whole archives to new formats. Such a calculation may prove that radical miniaturization may in the end not be the most economic way to store audio-visual material over long periods.

IASA Technical Committee members themselves took up this challenge: the following two papers are a first attempt to explore the costs of storage and preservation. Both papers were presented at the 1988 IASA Conference in Vienna.

### Note:

1. Dietrich Schüller. "Data Density versus Data Security. Formats suitable for Archival Purposes." In *Archiving the Audio-visual Heritage. A Joint Technical Symposium*. Edited by Eva Orbanz. Berlin 1988, pp. 85-87.

## COSTS OF STORAGE IN SOUND ARCHIVES

*Cor L. Doesburg*  
*NOB, Hilversum*

### 1. GENERAL

If we obtain some insight into the costs of storing sound in an archive (meaning long-term storage), we don't exclusively deal with the costs of the information carrier but with the overall organisation of a sound archive.

Although the costs of an information carrier itself are not too high, the number of information carriers and storage capacity are not to be neglected whilst determining the overall cost.

The question is, however, what is the storage cost in relation to other "archive" costs.

In this report we concern ourselves in the first instance with only *one* aspect out of the overall cost price, namely: *what costs are involved in information storage?* - in other words, how can we define and quantify these costs? Further in this report we will coordinate this with the overall archive costs.

The answer to the question "why do we want to know" is supposed to apply to, for instance, management who will make the *final and correct choice* as to which information carrier should be used in an archive.

An important question is "what influence has the *type of information carrier* on the cost of sound storage?" It seems obvious that a miniature version of the information carrier (such as an R-DAT-cassette) should provide a solution to the available space problem. We have to prove, however, that this assumption is correct and in order to reach the correct decision, it is necessary that we determine the various calculation factors for sound storage and express these in a workable unit which can be the basis for an accurate definition. In this way it will be relatively simple to ascertain if the price of an information carrier is of great influence on the overall cost and if the operational qualities of that information carrier can be weighed against a cost reduction or a cost increase in the overall running cost.

## 2. WHAT DETERMINES THE ARCHIVE COSTS?

We can define the four principal areas of which cost development is more or less independent. These areas certainly have a mutual influence and each area is not isolated:

- \* The total housing cost of an archive which holds the storage space.
- \* The total number of staff working for the archive.
- \* The raw materials which are necessary to operate, such as the purchase of tapes, forms and office equipment.
- \* The sound equipment to be used in order to play-back the supplied information and to copy it onto the archive carrier.

Because it concerns a comparison between an analogue recording tape and an R-DAT cassette as archive carrier, our main interest at this stage is the calculation of the *storage costs*.

## 3. WHICH PART OF THE STORAGE COST DO WE WANT TO CALCULATE?

In order to calculate the storage capacity we need the following information:

- \* The cost of storing the *information carrier*, in other words: the *housing of carrier volume*. One can express this possibly as hard volume.

It is more correct to calculate the actual cost of the ultimate "archive" product:

- \* The cost of storing the *information*, in other words: the *housing of information volume*; this could be expressed as soft volume.

From the above, the following could be possible:

- \* To express the storage of the carrier in the *number of tapes per cubic meter housing*, and when we know the capacity of an information carrier, we can express the *information storage in number of hours of information per cubic meter housing capacity*.

This is a handy *prefix* for calculation purpose.

#### 4 . WHAT WILL WE ACTUALLY DO WITH THESE COST FIGURES?

Calculating the storage costs in relation to the archive costs is a way to look clearly at the measures which have to be taken as to the quality or the continuity of the archive and to determine the importance of the effects of the measurements.

If we estimate, that in the coming decenia we will have to deal with a decreasing margin between budget and cost; the following question could arise:

- \* Should the *storage costs per hour*, which are dependent on *housing costs* in the *long term*:
  - be *increased*
  - be *decreased*
  - stay the *same*

If we issue the above mentioned estimate, we come to the decision that the storage costs should be decreased, in other words: the number of hours information per cubic meter housing should be *increased!*

#### 5 . WHY DOES THE NUMBER OF HOURS OF INFORMATION PER CUBIC METER HOUSING HAVE TO BE INCREASED?

Archiving is always an *expanding* matter; every year new information to be stored is delivered to the archive. Advance selection of historic information is not simple; even more so when selecting after a certain time, and then destroying the information of lesser historical value: it costs time which is equal to money, which is not in relation to the storage costs of that information.

Only after a long time, when the information carrier has to be replaced, would be the right moment to effect this.

An other fact is, the expansion of storage space is always a abrupt action. we have to add more new cubic meters space and then have to wait until this space is used up again. We estimate, that the ratio between budgets and costs in future is decreasing. This is the final argument to reach the conclusion that "we have to store *more* information in the *available* space".

The increase in the number of hours of information per cubic meter of housing is only possible however, under the condition that this increase is made in such a manner that it is *acceptable* (considering other requirements needed for information storage).

Regarding the storage costs, we have not taken into account the following subjects:

- \* The safety of the information; i.e. spheric saving information carriers against atmospheric conditions; against electronic failures and against fire and theft.
- \* The handling costs of information; i.e. copying from an information carrier onto a consumer tape for lending out; search documentation systems and personal advice and administration.
- \* The preservation of information; i.e. a technological system that will keep the information on a long-term basis.
- \* The specific technical qualities of the various information carriers; i.e. special requirements of operating the equipment and the structural operating process, depending on the shape of the carrier (roll, disc or tape) and the recording technology (mechanical, magnetic or optical).

All these aspects are very important for running an archive in an *operational* way (for instance, search facilities and user-friendly service) and should certainly not be neglected at the final decision on archiving.

When deciding on the organisation of an archive one must weigh out the available means against the risk.

## 6. SUMMARY

Summarising this particular subject, *storage costs*, we have to mention that:

- \* Our *main concern* is the number of hours information per cubic meter of housing to be stored.
- \* We have to deal with the information housing costs per cubic meter.
- \* We have to deal with the *storage capacity* of the *carrier*, i.e. the number of hours of information that can *safely* be stored on the carrier.
- \* We did not consider the *operational costs* for staff and machines.

## 7. CONCLUSION

Just reviewing all that we have discussed concerning the specific subject of *storing costs*, we can make the following conclusions:

- \* In view of the future expectations a reduction in housing cost is desirable.
- \* The number of hours of information per cubic meter of housing has to be increased.
- \* The storage capacity of an information carrier should be increased safely.
- \* The operational costs are, as far as we know, not related to the storage costs. It remains to be seen, however, if operational costs can be decreased when using another information carrier taking into account the special operational aspect, such as user-friendly facilities.

## §. PRACTICAL EXAMPLE

A practical example is necessary for illustrating the purpose of the above-mentioned facts.

The figures are derived from an existing archive and are subject to the present work configuration. All figures in this example are rounded off: the only purpose is to observe the *ratio* between them.

The facts on this archive are:

- \* For information carrier an analogue recording tape is used with one hour storage capacity.
- \* The contents of the storage space - where cabinets and stands are installed - is 25 cubic meters.
- \* The cost of housing the complete archive is f.70.000,-- a year.
- \* The stored information is 12.500 hours.

When using these figures we can calculate that the number of hours of information per cubic meter housing is  $12500/25 = 500$  hours.

Considering that "one hour of information" is in fact the "final product" of the archive, all the housing costs of the complete archive should be charged to the product. In this way a cubic meter housing of storage space costs  $70000/25 = f. 2800,--$  a year.

In this example the storage of one hour of information costs  $2800/500 = f.5,60$  a year.

In this example it seems to be clear that - with the available space of the existing storage space in mind - when using an information carrier with a higher storage capacity, the number of hours of information stored can be increased and the result is a decrease in storage costs of one hour information a year.

An information carrier with a lot more storage capacity than the analogue recording tape which is used in this example, is the digital magnetic tape: the R-DAT (Rotary-head Digital Audio Tape). Except that the size of an R-DAT-cassette is remarkably smaller than a professional audio-tape: the recording capacity is three times as high as the analogue tape used in this example.

The R-DAT could be the ideal instrument for a remarkable increase of storage capacity in an archive.

Using the above mentioned figures we can make a reasonable comparison.

The measurements of the used analogue recording tape are  $0,27 \times 0,27 \times 0,015 = 1,09 \times 10^{-3}$  cubic meters.

The measurements of an R-DAT-cassette are  $0,08 \times 0,06 \times 0,015 = 0,072 \times 10^{-3}$  cubic meters.

The volume ratio between an R-DAT-cassette and an analogue tape is  $1,09/0,072 = 15,19 : 1$ .

The maximum number of hours to be stored on an R-DAT-cassette is 3 hours. The information storage ratio between an R-DAT-cassette and an analogue tape is  $3 \times 15,19 = 45,57 : 1$ .

It is a fact, that storage capacity is reduced when storing smaller objects: inefficient space is increased. Because of past experience it is necessary to introduce a correction factor of 0,8.

The conclusion is, that the storage capacity of an R-DAT-cassette in the same storage space is 36 times as high as the analogue tape we used in this example.

As far as we know, the price of an R-DAT-cassette is roughly the same as the price of the analogue tape used in this example. However, the effect of this can be found later in other costing.

Even the price of a professional R-DAT-recorder (ProDAT) is just as high as a professional analogue audiorecorder, which is normally used in archives. These cost effects will be shown later on.

We are neglecting the costs of new cabinets and stands that are especially needed for housing the R-DAT-cassettes. The most important fact is the possibility of increasing the storage capacity by 36 times and that results in the number of hours per cubic meter of housing in this example to be increased to  $36 \times 500 = 18.000$  hours!

Taking into account the figure of housing per cubic meter being f.2800,-, we can calculate that the storage costs of one hour of information on an R-DAT-cassette are  $2800/18000 = f.0,16$  a year: a dramatic and attractive difference!

The example shows us the following:

- \* The storage costs using analogue recording tape are *36 x more expensive* as when using the R-DAT-cassette in the same capacity storing space.
- \* the existing archive contents can be used *longer than 36 years* at present production level.

The result that - as in the case of using an analogue tape - no building activities have to be undertaken to expand the storage space is, of course, very attractive. If one has to do so, the housing costs per year are increasing only slightly. When recalculating we can compare the results with each other in order to make a decision. When we look at the *storage costs* only, and we do not take the other aspects of information carriers into account, the result of this competition is very clear!

9. HOWEVER ...

We do remember:

#### WHICH FACTORS DETERMINE THE ARCHIVE COSTS?

That is:

- \* The complete housing costs of the archive.
- \* The work structure and the overall personnel costs.
- \* The raw materials, such as tapes etc.
- \* The available equipment/machines.

If we want to review the situation clearly - the most important question is really: what are the actual storage costs in relation to the overall cost projection of the archive?

Again the given figures are derived from an existing archive practice and are rounded off, only for the purpose of illustrating the related ratio.

The *other costs* of the complete archive - as in the case of the used analogue tape - are as follows:

- \* The personnel costs: f.750.000,-- a year.
- \* The remaining costs related to the safety copy archive, the overheads of a complete company, the purchase of raw materials such as tapes and forms, costs of the archiving documentation system, costs of a computer system, an office inventory, write-offs, etc. are approximately f.580.000,-- a year.
- \* The technical costs, such as write-offs, maintenance etc. of the audio equipment are f.150.000,-- a year.

Taking the storage capacity of 12,500 hours of information into account and considering that this information is the final product of the archive, we can calculate that the remaining costs for one hour of information are:  $1480000/12500 = f.118,40$  a year.

If calculating the same costs while using an R-DAT-cassette we need to suppose in order to obtain a reasonable comparison that the stored information of 12.500 hours is equal to the yearly information production made by the staff. It is obvious that a 36-times production capacity is too much for the "historical events" taking place in a country. Of course this assumption could be arbitrary, but it is reasonably useful for the comparison.

The *other costs* in the case of use of the R-DAT-cassette are:

- \* The personnel costs: f.750.000,-- a year.
- \* The remaining costs whereby purchase of R-DAT-cassettes for comparison is estimated on f.50.000,-- less than in the case of analogue tape which are f.530.000,-- a year.
- \* The technical costs remain at f.150.000,-- a year.

The remaining costs for one hour of information in the case of R-DAT are  $1430000/12500 = f.114,40$  a year.

## Summarising:

- \* In the case of the used analogue tape the *total archive cost* for one hour of information is: f.5,60 + f.118,40 = f.124,-- a year.
- \* In the case of R-DAT the total archive cost for one hour of information (considering an equal year production) is: f.0,16 + f.114,40 = f.114,56 a year.

The difference between using an analogue tape or an R-DAT-cassette as information carrier per hour of information is f.9,44 a year. So every year gives a saving of  $12500 \times 9,44 = \text{f.118.000,--}$  on the total amount. For a good understanding of the ratio we have taken into account that the total archive costs are f.1.500.000,-- a year.

As to the abovementioned statement "that in the case of an analogue tape, the information storage space would have to be increased, as opposed to the decrease in space when using an R-DAT, we can see the relation between the yearly housing costs of f.70.000,-- and the overall yearly archive costs.

Taking all the abovementioned arguments into account we have to consider that when using an R-DAT-cassette as a long-term storage instrument, there is no real technical experience at present and the technical problems are, as yet, unknown. Most technicians have their doubts.

## 10. FINAL CONCLUSION

Reviewing the above, the final conclusion is:

- \* The storage costs per hour of information are marginal for analogue recording tape in relation to other costs of the archive.
- \* The storage costs per hour of information are, when using R-DAT, even more marginal in relation to the other costs of the archive.

When all other aspects of both types of information carriers are taken into consideration and compared to the eventual financial effects, the conclusion has to be:

- \* The technical- and operational aspects of the type of information carrier are *important* to the *overall functioning* of the archive.
- \* The economical aspects of the type of information carrier are - in their totality - *marginal* for the *overall continuity* of the archive.

Other companies producing software-like products as radio- and television programs have in many cases come to the same conclusion.

In other words: from a very narrow perspective, we came to the conclusion that the *storage costs* are of course useful. However, for the complete functioning of an archive we have to examine the total amount: not the "figures" only.

If there is a need to save costs: the "personnel costs" and the "remaining costs" can be more effective.

## FORMAT-SPECIFIC PRESERVATION COSTS - A FIRST ATTEMPT 1

*Dietrich Schüller, Phonogrammarchiv, Vienna*

Cor Doesburg's paper (see above) impressively shows that storage costs, if we compare analog tape even with R-Dat, do not significantly decrease with the size of carriers if we include the costs of the entire archival operation into our calculation. Let us take now one step further in trying to explore the preservation costs as a variable of the storage format. Because storage costs depend on the size of the carriers, preservation costs have to take into account the costs of (subsequent) re-recordings onto new carriers depending on their respective life-times. To get an idea about the influence of the life-time of carriers in such a calculation, two different carriers with differently assumed life-times shall be compared.

As R-Dat is not yet recommended for long-term storage let us compare analog magnetic tape, running at a speed of 19cm/s <sup>2</sup>, with a hypothetical "X-Format": this X-Format would have greater data density than professional analog magnetic tape thus using less shelf space per stored hour. As a consequence of increased data density we assume, however, a shorter life-time.

Let us, for the X-Format, make the following assumptions:

Size (incl. box):	110 x 70 x 17mm (like a compact cassette)
Recording capacity	1 hour
Price:	Austrian Schilling (S) 100.-- <sup>3</sup>
Life-time	20 years

The respective figures for analog magnetic tape (730m) are:

Size (incl. box):	275 x 275 x 17mm
Recording capacity:	1 hour (19cm/s)
Price:	S 250.--
Life-time:	50 years (optimistic, but not unrealistic).

To arrive at comparable storage costs, we have to define a storage unit <sup>4</sup>:

It measures 5 x 5 x 2,5m, and is equipped with mobile shelves which occupy a space of 4,2 x 4 x 2,2m, leaving an aisle of 1m across for general access and a "moving aisle" of 0.8m. Shelves are arranged to take up a maximum of carriers, leaving - on the other side - enough space to manually handle the carriers <sup>5</sup>.

The storage area is airconditioned and - for ultimate security - equipped with an automated halon fire extinguishing plant; a fire detection and alarm plant is installed in the area around the storage vault wide enough for early alarm.

The annual storage costs are determined by the following factors:

1. The rental for the room: Office space with the necessary mechanical adaptation in an appropriate area is available in Vienna for S100.--/month.  $25 \times 100 \times 12 = S30.000.--$  rent/year.
2. Air conditioning, including amortisation of equipment is calculated to be S10.000.--/year.
3. Mobile shelves for analog tapes would cost S250.000.--, their life-time can be expected to be 25 years, annual costs therefore are S10.000.--. The X-Format, however, needs more sophisticated shelves: the costs are estimated to be at least twice as much.
4. The costs of the fire detection and extinguishing plant is S250.000.--, the life-time again 25 years, annual costs therefore S10.000.--.
5. Annual maintenance costs for mobile shelves and security plants are S20.000.--.

The annual storage costs per recorded hour are determined by the storage capacity of the unit depending upon the size of the respective carrier. Mobile shelves as described above can take up 18.500 hours of 19cm/s tape, while they will house as much as 155.000 hours in the X-Format.

Thus the annual storage costs/rec. hour are the quotient of the sum of the annual costs, divided by the storage capacity expressed in rec. hours:

		Tape	X-Format
Rental storage area	S	30.000	30.000
Air conditioning	S	10.000	10.000
Mobile shelves	S	10.000	20.000
Security	S	10.000	10.000
Maintenance	S	<u>20.000</u>	<u>20.000</u>
Total	S	80.000	90.000
Storage. capacity: rec hours		<u>18.500</u>	<u>155.000</u>
Annual storage costs/rec. hour	S	4.32	0.58

Looking at this calculation so far, there would be an enormous argument in favour of the smaller carrier.

But let us calculate now the preservation costs, which take into account the life-time of the carriers and the costs of re-recording. To make the costs comparable for formats of different life-time, they have to be expressed in annual costs/rec. hour. These are determined by:

1. The price of the carriers/rec. hour, divided by the life-time
2. The annual storage costs/rec. hour.
3. The costs of re-recording/rec. hour.

This latter category needs to be explored. Re-recording costs are determined by the following time/cost factors:

Transport of carriers from the shelves to the copying plants.  
 Copying of old carriers onto new ones; for ultimate fidelity this process has to be done in real time.  
 Re-labelling of new carriers and boxes.  
 Documentation of the re-recording process.  
 Transport of new carriers back to the shelves; depositing of old carriers according to the respective preservation policy.  
 Maintenance and amortisation of copying equipment.

Under the condition that all old carriers can be replayed in their original fidelity (this means that they do not require additional efforts to restore the original signal due to deterioration) and the existence of several copying plants to work in parallel, it can be assumed that one operator will be able to handle not more than three carriers per hour. That means that re-recording, in the case of one-hour-carriers, will consume at least one third of their playing time. One hour of manpower including equipment costs can be calculated to be at least \$600.-- which brings us to re-recording costs of \$200.-- per carrier (=recorded hour in our

example). The annual re-recording costs, depending on the life-time of the various carriers are therefore:

$$200 : 50 = S \text{ 4/year/rec. hour for tape}$$

$$200 : 20 = S \text{ 10/year/rec. hour for the X-Format}$$

**The annual preservation costs/rec. hour therefore are:**

		Tape	X-Format
Material/year	S	5.--	5.--
Storage/year	S	4.32	0.58
Re-recording/year	S	<u>4.--</u>	<u>10.--</u>
	S	13.32	15.58

From this example we learn that preservation costs cannot be seen by looking at the costs of space alone. The annual costs for the material and re-recording have to be included as important factors. In our example both factors have been assumed quite low in favour for the X-Format, still total X-Format's costs are higher than those of 19cm/s tape <sup>6</sup>. Different assumptions will lead to different results, our example only intends to demonstrate the order of magnitude of the various cost factors.

If we finally combine our argument with that of Cor Doesburg and include the costs of the total archival operation into our calculation we learn that the size of the carriers is - in terms of overall costs - negligible.

**Notes:**

1. Updated version of the paper read at the Annual Conference.
2. Cor Doesburg also calculates for 19cm/s tape.
3. 1 Austrian Schilling = 0.08 US\$, 1 US\$ = 12,5 Austrian Schillings.
4. All figures and prices are taken from the actual situation of the storage vault of the Phonogrammarchiv.
5. It has been explained in the Joint Technical Symposium, 1988 paper (p.86) that there is a non-linear relation between the size of the carrier and the totally occupied storage volume. As

certain dimensions - like the aisle, or the empty space to get hold of the carriers, etc. - cannot be diminished beyond functional needs, there is, with reference to the totally available storage volume, an increasing percentage of empty space along with a decreasing size of the single carrier.

6. A storage plant of that size would also take up 17.160 1000m-tapes (300 x 300 x 17mm) with a playing time of 80 min at 19cm/s or 40 min at 38cm/s. The total storage capacity would then be almost 23.000 hours (19cm/s) bringing storage costs down accordingly. The re-recording costs would also decrease on the side of manpower, as these are dependent upon the number of carriers/rec. hour, but slightly increase on the hardware side due to the the higher amount of equipment necessary. For 38cm/s tape storage costs would double, re-recording costs not quite, as in our example only two copying plants are necessary for continuous work.

## **RADIO FROM THE MUSIC BOX**

**The SEKAMOS System of South German Broadcasting (Süddeutscher Rundfunk) Stuttgart - Model of an automatic cassette archives system for transmission of light music programmes**

*Ulf Scharlau. Süddeutscher Rundfunk, Stuttgart*

**Presented in the Technical Committee session at the IASA Conference, Vienna, 1988.**

In German broadcasting institutions all radio sound archivists and programme makers have had to deal with the same problem for many years: they are confronted with thousands of records and music titles of light music which, year by year, are produced by the record industry and which are offered to the radio sound archives as material for music programmes. All this music material, however, contains such an incredible amount of information and of discographical dates that only the routine and the technical facility of an EDP system can guarantee order and something like clarity. The music database of a radio sound archive serves primarily as a channel for a flood of information so that the archivist and the programme maker can research the holdings quickly; however, this present database does not yet serve as a direct support for the preparation and the transmission of the music programmes. A couple of years ago, a planning group was established in my institution in order to think about a system for a music database which could be utilised as extensively as possible. We had the idea that a data bank system should not be focussed to the advantage of a single department. Rather, we envisioned that this EDP system would cover the chain of activities from the very first idea for a programme until the realisation of this idea in the form of the programme's transmission. The links of this chain are the many departments which are responsible for certain services of programme planning, programme transmission and programme administration routines which have certain demands and expectations from the information kept in the database. For instance, those departments are the general programme department, the music programme department, the radio sound archives with all its duties for the preparation of the programme, the transmission department, the legal department, and, finally, the department responsible for statistics.

To cut a long story short, we tried to create and establish an EDP system which would enable us to use information entered once for multiple usages so that it would not have to be entered again for each department. The result of these deliberations was the project **SEKAMOS**. **SEKAMOS** means in German "SEnde abwicklung mit KAssetten MODulationsspeicher", or "transmission of programmes by use of an EDP-regulated cassette system." It is a service system for transmission on the basis of cassettes which are to be taken, moved, and started for transmission by EDP regulation. Administration, registration, motion and all manipulation of these cassettes are controlled by the computer system. Moreover, the concept of the SEKAMOS project had been influenced greatly by the organisation and the working routine of the transmission services of my institution. As is the case in all broadcasting institutions in Germany including my own, the large field of light music and popular music is of great interest to our listeners. The popularity of this music is decisive for the acceptance of our programmes by the public.

An examination of some statistics will show the amount of time given to light and popular music in programming. In 1986, the total time used for all radio programmes of Südfunk was 1,7 million programme minutes or 28,200 hours per year or 78.5 hours per day. Light music, including the whole field of folk, dance, and pop music and jazz, etc., used 11,400 hours that year or 31.6 hours per day, thus totalling 40.3% of the entire year's programme. In the same year, 1986, approximately 196,000 playings of pieces of light music had been broadcast in our radio programmes; of course, this figure does not correspond to the amount of different musical pieces which had been broadcast, but these playings consisted of around 70,000 individual musical pieces. This means that a huge amount of single pieces must have had several repetitions, a fact which is of utmost concern to our system.

From the results of a survey into the types of requests people make and research into the sociology of music, we know that the level of recognition of the listener to the pattern of the music is an important condition for the acceptance of light music programmes in radio. It is common knowledge that a pop group will rarely change its special sound because this sound is the reason for its success, both artistically and commercially. The radio listener identifies intimately with his knowledge of the colour of the music, so it is typical for many musical titles to be chosen repeatedly for programmes of light music. A permanent repetition is one of the fundamental principles of "hit" programmes. These

programmes commonly play titles high on the charts each day until it is decided to play them less frequently in order to benefit another title which is in the process of rising on the charts. Most people are aware of this mechanism of the popular music market, which is an international phenomenon.

For the SEKAMOS system, we analysed the total amount of all replays of popular music within a couple of years, and we discovered a very interesting result: the 100 most frequently played musical titles of a year were responsible for 9% of all replays, some of which had been broadcast more than 50 times. The 1000 most frequently played titles caused 25% of all annual replays and the 5000 most frequently played titles caused almost 50% of all annual replays. That means that 50% of all manual activities in the technical studios at transmission time, including preparation and storage of sound carriers, could have been saved in 1986 if there had been an automatic cassette system. Indeed, we have had such an effect in our third radio programme which is almost totally devoted to pop music because this programme had been supplied by the SEKAMOS automation system began on 1 July 1985.

All of these plans, calculations, simulations, tests, along with a very intensive training period of disc jockeys, technical and archive staff resulted in the SEKAMOS system. In short: SEKAMOS is a huge music box that is coordinated and regulated by an EDP system. The SEKAMOS computer is connected to our music database, which is kept at the central computer. All titles of popular music chosen for broadcasting have to be copied from the original sound carrier onto cassette, which is then put into the storage system of SEKAMOS. All titles stored in the cassette system can be moved from the storage tower to the player system by means of a computer aided radio programme schedule. The single cassette does not leave this closed system. The cassettes are prepared within a very short time and, once reproduced, are available within round about two minutes rather than many hours, which is the case for the usual broadcasting routine.

Musical titles meeting the criteria for input into the SEKAMOS system (pop music with a duration less than 4.5 minutes) have to be copied from the original sound carrier on a special cassette in time for the first transmission date. Therefore, for the first run and for all replays of this title, no manual services are necessary; each replay within a programme will be reproduced and regulated by the EDP system itself. Preparation of the cassette, transportation to the player, reproduction in the player, turning

out of the cassette and returning it to the storage tower runs automatically. The storage system has space for 12,000 cassettes or 36,000 titles as three titles are copied onto one cassette. The longest duration of a cassette is 15 minutes with the cassette speed being 0.5 cm per second (or 275 inches per second). We have been filling up this system for three years, and it now contains about 20,000 musical titles. In two or three years when the storage towers are filled, the EDP aided documentation and administration of the storage system will provide space on cassettes for new titles to be copied and put into the system. This means that a new title will be copied onto a cassette which stores a title which has not been replayed in order of its storage order in the system. There is no risk at erasing this title because the original sound carrier is available quickly from the sound archive.

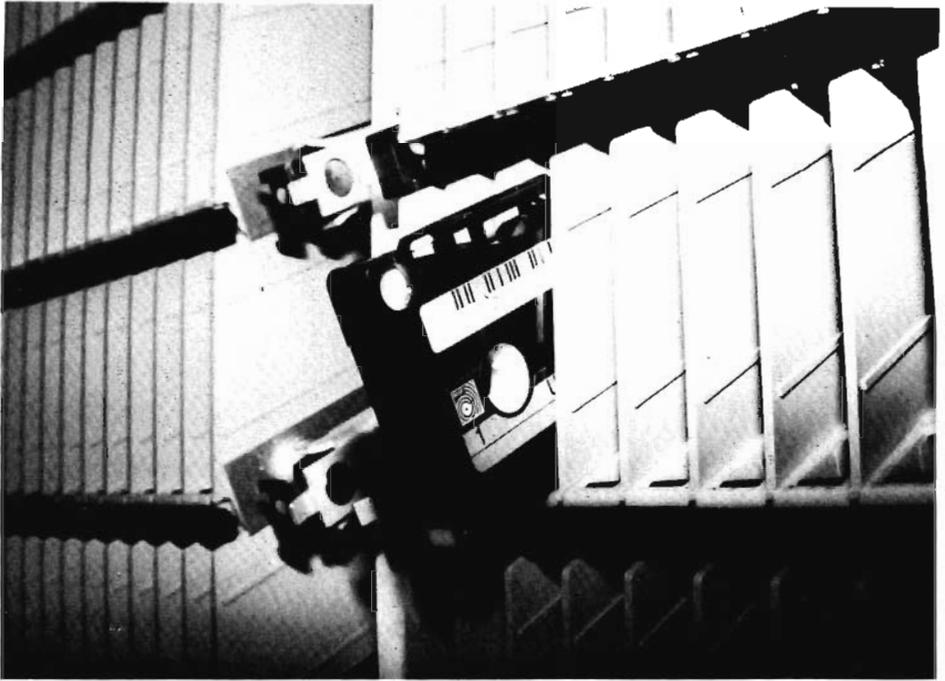
This philosophy may be a bit complicated, but I hope that I have explained its guidelines clearly. Some photographs will give a better impression of the system. As I pointed out before, the light music database of the sound archive has made the work of the programme makers much easier during recent years. Using this database, the programme maker can do research in the data bank in order to find out all the information needed from round about 300,000 music titles. Fields available for searching include title, composer, artist, duration, certain keywords, date of recording, character of music, language of songs, publishers, release date and many other types of information, all of which can be combined. All titles chosen for the programme during the search are marked and put into the programme schedule automatically. The programme maker can look at his schedule at any time and he will get permanent information about the actual status of his preparation. After the programme schedule is prepared, the computer automatically points out all titles which appear in a radio programme for the first time and which need to be copied and stored on cassette in time for the transmission date.

More advantages of the SEKAMOS system are found in the sound archives. For instance, we could reduce by more than 30% the total amount of records or tapes normally supplied by the sound archives for transmission - a saving of more than 120 records or tapes per day. Next year when we broadcast the music of our first radio programme from the SEKAMOS system, we expect a further reduction of work in the archives. We expect that the documentation services staff will use this saved time to do other work that cannot be done by the computer.

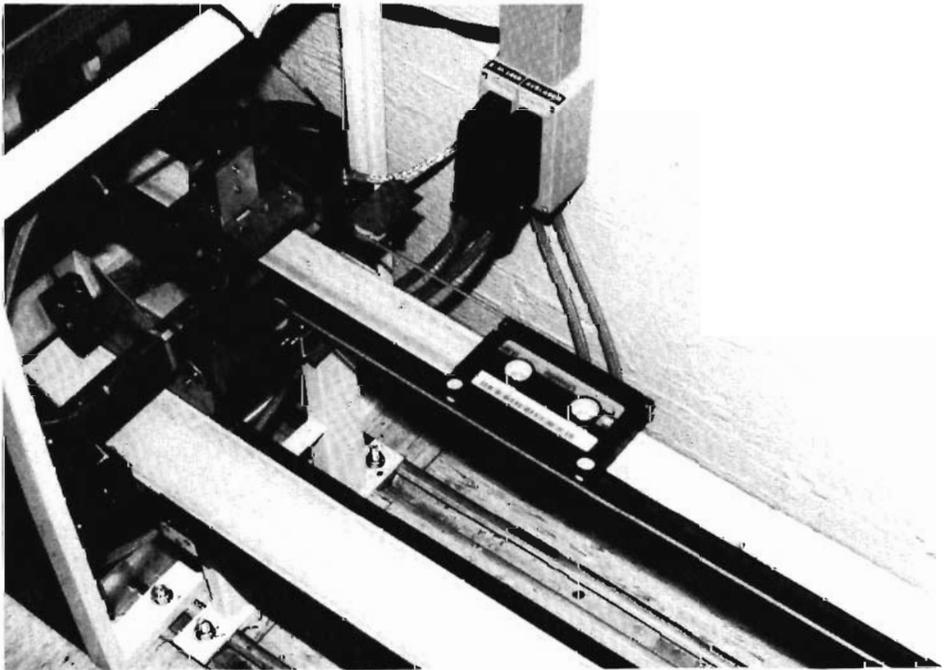
The computer arranges documentation of the complete broadcasting operation which contains the contents and exact duration of all music that has been broadcast. These EDP-aided minutes serve as the basis for all administrative work which must necessarily be done after the transmission of a programme, like statistics or documentation of license fees. All of these administrative operations took a lot of time and manpower before we started the system.



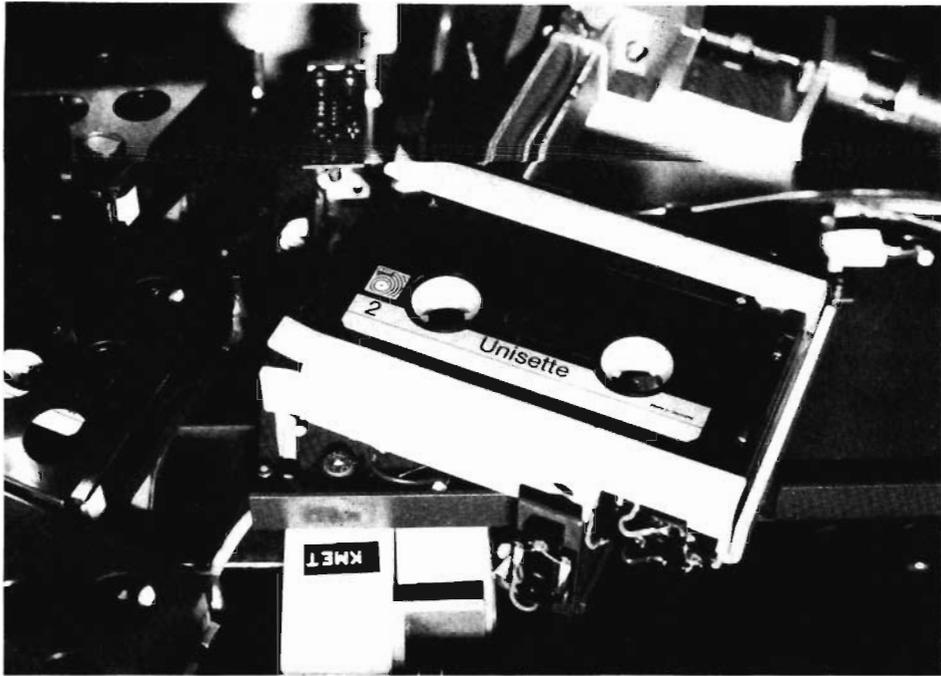
Cassette shelves



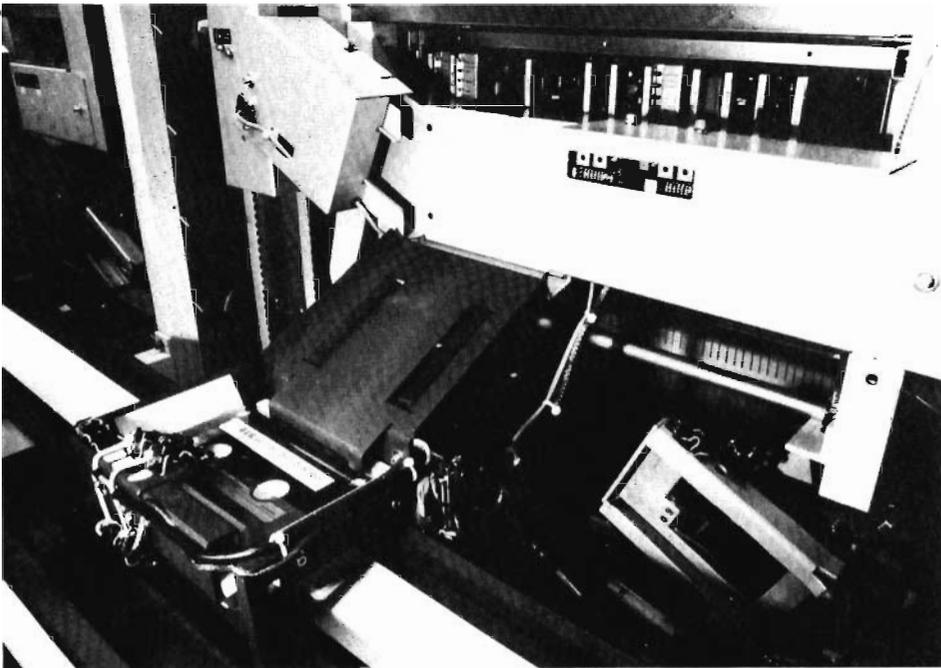
**Cassette leaving the shelves**



**Cassette transportation system**



**Cassette player: cassette chain box**



**Reading station of cassette player**

All the cassettes which are chosen for the programme are taken automatically by a special transportation system from the storage place and are transported to the player system by special rails.

The cassettes are put into special chain boxes. Shortly before transmission time, they are put into the player and started exactly at the programmed point of time. The transmission itself comes directly out of the system. When the play is finished, the cassettes immediately leave the system on special return rails where they pass a reading station in order to check their bar code number, and a few minutes later they are replaced onto the shelves. The cassette may then be ready to be used for another purpose.

I don't want to hide the fact that we faced some problems when we started the SEKAMOS system. These problems were not only technically and EDP-based, but we had to deal with human and social problems as well. When we started the system we dealt with two groups of colleagues, one of which was happy about the advantages they expected from the system and another group which felt anxious and even aggressive. We had to discuss the system intensively and, sometimes, emotionally. We had to face a fundamental skepticism against all projects of automation, and we had to face a fear of losing jobs- a fear which we all understood very well. Indeed, we saved jobs in the technical staff of studio engineering, but all of these colleagues got other jobs in the department of radio production where there was a great demand for enlargement of the technical staff. Of course, the creation of the system had cost a lot of money, but the creation of SEKAMOS had saved the extension of another production studio, which would have swallowed some million marks.

In the sound archives, new demands made upon the staff by the increased volume of programmes that we had too few personnel to handle could be controlled because colleagues had been relieved of some of their former tasks which were now being done by SEKAMOS. Many sound archives colleagues have now taken over challenging intellectual duties in the field of documentation which cannot be done by automation or by a computer.

In conclusion, this project of cassette automation enables my institution to concentrate on its most important aim- namely, to plan and to broadcast programmes which are of the highest quality. Of course, we need technical services, the archives, and the administration, but as far as programming goes, all of these are service departments. It would be dangerous for radio if these service departments would increase in budget and staff to the

detriment of budget and staff needed to maintain the programme and to pay for the authors, the artists, the correspondents, the reporters, and the programme makers. Money for programme preparation gets cut more and more. Since 1983, the public radio stations in my country have had an unchanged fixed receiver license fee, and we do not know if this fee will be increased next year; therefore SEKAMOS is a project that saves money so that it may be spent on production of good programmes.

Despite the idyllic sound of its name, SEKAMOS is not a Greek isle of the blessed, but it is a necessary medium of modern technology which, along with other such projects, enables the broadcasting organisation to fulfill its programme services for the interests and benefits of our listeners within a world of media which gets more and more complicated.

## **SOUND TAPES AND THE "VINEGAR SYNDROME"**

*Dietrich Schüller*

During the *Joint Technical Symposium* in Berlin, May 1987, Karel Brems in his paper "The Archival Quality of Film Bases"<sup>1</sup> reported about the so-called "Vinegar Syndrome" that had recently been discovered by film archivists. Several safety films with triacetate cellulose bases have been found in various film archives which had become limp and soft, and, if allowed to dry, very brittle at a later stage. This phenomenon takes place under the evaporation of acetic acid, the smell of which gave this self-destruction process its name.

Investigation into this highly unfavourable process was started by several researchers immediately, but a full understanding has not yet been achieved. Brems surveyed two different hypotheses: One suggests that it is the so-called substratum (it fixes the film emulsion layer to the acetate base) which initiates this process, while another hypothesis says that this self-destruction is the result of one of the manufacturing processes.

The process of self-destruction is autocatalytic, that means once it has started it continues with ever increasing speed; no solution for its interruption has been found yet. The tighter the film can of the affected film, the faster the process develops. If - on the other hand - the films are being kept in open containers and the vapours are constantly being removed by proper air conditioning, the self destruction process progresses slower. Unfortunately the

vinegar syndrome behaves like an infection: "ill" films infect "healthy" ones. Therefore it is important to control entire vaults carefully and to remove those films where the syndrome has already started.

The bases of most of the early sound tapes (until well into the sixties) have been made of triacetate-cellulose. The question whether or not sound tapes may be affected by the vinegar syndrome has been discussed in the debate of Karel Brems' paper. As no such appearances on sound tapes had been reported (with the exception of one having been stored together with an affected film), sound archivists hoped at that time that this syndrome was peculiar to film (which supported the "substratum-hypothesis").

Nevertheless alerted, all acetate tapes of the Phonogrammarchiv have been smelled through as a result of this report and indeed: several tapes of two different brands were found that smelled of vinegar. The tapes were copied immediately and they showed besides the smell - no obvious chemical and electrical degradation. Since that time these tapes, for safety reasons, are being kept outside of the vault.

From these findings we learn that obviously the vinegar syndrome is not peculiar to films only. It may also affect acetate sound tapes. This supports the hypothesis that it is the production process which is responsible for its appearance. Meanwhile further research has been carried out into this process of self-decomposition and further results are being expected at the Open Technical Session of IASA's Annual Conference in Oxford, forthcoming August, when Dr Norman Allan of the Research Centre for Archival Polymeres of Manchester Polytechnics will give a report about his latest investigations of that topic. The burning, yet unanswered, question is: Will all acetate tapes and films sooner or later suffer from this syndrome or does it only affect triacetate cellulose manufactured according to a special process (as Karel Brems indicated), while differently produced tape and film bases will not be affected.

Meanwhile sound archivists are called to have a careful inspection of their triacetate stocks. On the basis of our knowledge so far the following preliminary recommendations should be observed:

1. Inspect all triacetate tapes carefully by sniffing.
2. Remove already affected tapes from the storage area and copy them immediately onto modern polyester tape. Keep the

affected tapes separated from the other tapes and regularly inspect their further behaviour.

3. Remove plastic bags from not yet affected triacetate tapes to prevent the possible start of an autocatalytic process.<sup>2</sup>
4. Repeat the inspection of not yet affected tapes in regular intervals (approximately every 4 months).

Report any incidents to the IASA Technical Committee:

Dietrich Schüller  
Phonogrammarchiv  
Liebiggasse 5  
A-1010 Wien - Austria

### Notes and References

1. In: Eva Orbanz (Ed.), *Archiving the Audio-visual Heritage. A Joint Technical Symposium*. Berlin 1988.
2. This recommendation is only valid if the unaffected tapes can be inspected regularly. If, for any reason, this cannot be guaranteed, it might be safer to leave the tapes in their bags. This will accelerate a possible self-destruction of potentially unstable tapes, but the bags will possibly prevent the spread of the "infection" to the rest of the tapes. In view of the uncertainty and the lack of experience so far, utmost caution is recommended anyway.

## REPORT ON THE JOINT TECHNICAL SYMPOSIUM

Held in Berlin on 20 - 22 May 1987

*Cor L. Doesburg*

### SUMMARY

The following report reflects the views of one of the participants of the Technical Symposium held in Berlin on 20 - 22 May 1987 and tries to give a clear picture of the problems facing audio-visual archives.

The report shows that we have to consider the following fundamental issues:

- A combined effort by all archivists is necessary to find solutions to the existing problems facing audio-visual archives.
- A technical department should be an integral part of all audio-visual archive organisations.
- The copying of information from one carrier to another is likely to be an inescapable necessity. In order to cut down on costs this should be effected at a faster speed than the normal play speed and without any deterioration of quality.
- When the correct preservation measures are used, the future conservation costs can be kept low.

## 1. GENERAL

The Joint Technical Symposium was arranged by FIAF, FIAT and IASA.

The most important objective of this symposium was to investigate the problems affecting existing historical information carriers.

The papers presented were divided into 3 groups:

- The archiving of image and sound ("Conservation")
- The restoration of image and sound
- The problems created by equipment format changes ("Obsolescence")

In order to obtain a clear picture of the situation facing historic image and sound material, this report is a summary of the discussions and the recommendations at the symposium. The signs of finding solutions for the known problems are definitely present; what is missing, however, is a joint initiative from the archives.

## 2. SITUATION AND PROBLEMS

Generally speaking, there appears to be a crisis growing with the preservation of the audiovisual heritage of our most recent predecessors. We can "see" the historical information disappear

slowly but surely; and each day brings some new historical information to store.

As far as the understanding of the problems is concerned, there is much confusion. The uncertainty about the continued survival of historical documents is increasing. Everybody has a "correct technical solution" but is not able to prove this statement because of the costs involved.

Nevertheless there are various technical sciences, such as electronics and chemistry and the physiological sciences such as biology which are related to the problem. There is, unfortunately, no integrated technical approach as is the case in the development of consumer electronics.

The audiovisual problem is world-wide. There are many audiovisual archives in the world and some of them store more than 40,000 recordings, the extent of which can be measured in terms of a total play-back time of about 5 years.

Apart from this, a cultural aspect is appearing. As time progresses, the interest in the *entertainment content* of the stored information decreases, while the *historical value* of the stored information increases.

At a later stage in this report the term "information" is used. This represents all known forms of information such as image, sound and data. It also underlines the fact that the problems are not only limited to film or gramophone records.

### 3. ASCERTAINMENTS

- A big gap has appeared between past and present. Simple actions, such as putting the information carrier on a play-back machine are often not possible.
- The present popular technology for the recording and play-back of information, is not suitable for long-term storage.
- The interests of professional producers and of consumer electronics in relation to the information carriers and equipment, do not necessarily agree with the interests of archives.

- Techniques for prolonged conservation of information carriers are hard to find.

N.B. "Preserving" in this context means that the choice of material for information carriers and its wrapping is of such a high standard that it is resistant to deterioration.

- Conservation techniques concern primarily the preparation of carriers for storage and the climatic conditions in the store.
- The restoration of information is an extremely labour-intensive procedure.
- Selection of information on its cultural-historical value before storing is not always adequately performed.
- This leads to an excessive increase of information to be stored.

When copying analogue material, there is a qualitative degeneration with each step:

- A single clear method of the application of archive technology is not in sight. The methods differ or do not exist at all. Many seem to use an empiric and pragmatic approach whilst others employ a more scientific approach. We have the impression that we are looking to a technology that has not been developed specifically for archives for quick solutions.
- The electronics industry is, at present, not particularly interested in the audiovisual archive market.

#### 4. FACTS

##### 4.1 The Mechanical Aspects of an Information Carrier

- Generally speaking, information carriers are made of a synthetic material. These materials can break down because of adverse climatic conditions or because of its own structure. The decomposition process can be slowed down by the choice of better material (= preserving) as well as by the choice of wrapping and storage conditions (= conserving).
- The material of the information carrier is subject to a change of shape, which is defined by its consistency and weight and

by its environment i.e. temperature and humidity. By making the right choice of material and its surroundings, deterioration can be slowed down.

- many information carriers are laminated, which means that they are built up from layers, and consist of a mechanical carrier (disc or foil) onto which the actual information layer is fixed.

*Of the utmost importance* is the manner in which this information layer has been fixed; the binding agent must be resistant to mechanical damage, heat and cold as well as to humidity. At the same time it must be resistant to any chemical action between the base and the information layer, as well as fungal and bacterial action.

The right choice of material composition is very essential: For instance, acetate has a reasonable fixing quality but is chemically unstable. Polyester material is chemically stable but has less effective fixing qualities. If the layers of the information carrier delaminate, it will be extremely difficult to recover the stored information.

- An information carrier has a shape and size appropriate to the recorder or play-back machine used. These are subject to high obsolescence due to technological evolution.
- Because of technical evolution the information density on the information carrier is increasing. This does not mean that the storage space required in an archive decreases accordingly: the combined size of the carrier and its wrapping is getting bigger in relation to the information storage capacity of the carrier; it is not a linear relationship.

#### 4.2 The Technique of Writing Information

There are various techniques for writing information on the information layer, each of which has its own decomposition problems:

*Light Sensitive Material* When using colourants (dyes), these can fade further by exposure to light. Specifically these light-sensitive materials are known to be very vulnerable to bacteriological and environmental influences. This type of carrier has a definite continuous decomposition process.

When using *Magnetic Recording*, one deals with certain metals (oxides) which are mixed into a binding agent and are fixed onto the carrier. The remanent magnetization is generally fairly stable. It is, however, heat dependant. The long term behaviour of the binding agent on the carrier is not known but spontaneous delamination can occur on some magnetic tapes. Also, because of hydroscopic actions, mildew can develop.

Here we can talk of a *Chemical and Biological Decomposition Process*.

When information is written on the carrier by a mechanical surface change of material, we can talk about the results of corrosion or erosion of material. In the case of reflective surfaces on a carrier for lightbeam sensing, delamination can occur as well. We can talk of chemical, biological and mechanical decomposition of material.

The manner of recording information signals can be direct pictures or text (e.g. typewriting or photography) or by means of analogue signal or digital code. When in replay, the code has to be decoded into a directly interpretable form. Coding can be standardised in various ways and the complexity of the code is dependent on the available techniques. As a result of the evolution of the technique, a code is liable to obsolescence.

The information density on the information carriers increases through technical development. This, however, has certain consequences for the data security of code and play-back precision.

#### 4.3 Recording and Play-Back Equipment

- The technological life expectancy of the recording format and the mechanical life expectancy of recording and play-back equipment, is becoming shorter as a result of marketing mechanisms and faster technical evolution. To hope for a break in this process is probably in vain.
- In future, the number of machines necessary to play-back obsolete recording formats and systems will increase. Replacement or reconstruction of our machines will become very costly. Maintenance costs increase because of the non-availability of spare parts and will necessitate specialist maintenance engineers. A need for technicians with the specialist skills required to operate the machines will

develop; this will lead to a need for training if shortages are not to occur. The difference between manual and automatic play-corrections will increase as this process continues.

NB An ~~an~~ example was noticed this whilst playing the old wax cylinders and films of c.1900. Problems with the playback of old video tapes which are not more than 20 years old, are now exciting interest: The same problem can be expected of digital audio recordings on rotary head machines.

- Restoration of old information material is very costly as far as manpower and equipment is concerned. Sometimes it requires the manufacture of special play-back and copying equipment.
- Technical specifications and operating manuals for the machines have often been lost and the hand down of information by word of mouth has ceased.

NB. It is frequently the case when replaying wax cylinder recordings that the correct recording speed is not known.

#### 4.4 Storage or Archive Housing

- The administration of the contents of an archive is very labour intensive.
- Selecting the information to be archived, requires human action. This is very costly and cannot be automated.
- The housing criteria for an audiovisual archive date back to practical experience of film archives and galleries. One has to think of the high building and air conditioning costs as well as of the prevention of fire and water damage, which can also be very expensive.
- Exploitation costs of an archive like the above are therefore rather high, despite increased efficiency measures. Besides - the possible revenue is low. There is a requirement for a continuous increase in floorspace for storing information and operating personal.
- The archive's finance can not be dependent on usage of facilities or on commercial money supply.

## 5. CONCLUSIONS AND POSSIBLE SOLUTIONS

### 5.1 General

Because this report is a summary of the various lectures and of opinions stated in discussion over coffee, one cannot deny the fact that some conclusions do represent solutions and, when thinking further on the subject, the solution becomes obvious.

- Because there are, at present, no suitable information carriers available for long term information storage, one has to use current available systems. The effort and influence available to audiovisual archives has to be concentrated in order to reach acceptable investment and exploitation levels.
- In order to expand the archive market for the supplier of the equipment and systems, we cannot allow each institution or each country to find its own solutions. We have to have a world-wide approach and take measures to promote a standardizing of the systems. In order to achieve this, it is imperative that organisations such as FIAF, FIAT and IASA get together, and talk to the various national and international standards setting organisations which cover the audio-visual media. This way the manufacturer will want to produce a product which can be used world-wide and which will facilitate an exchange of professional skills.
- In order to have an enlarged market for the archive carrier and machine, image (film and video), sound (radio and record industry) and data (archives and libraries) should be recorded and replayed on a new universal flexible archive media. This is at present, technically speaking possible although, as yet, undeveloped.

**A COMMENT ON ETHICS OF RESTORATION FIAF-  
FIAT-IASA JOINT TECHNICAL SYMPOSIUM, BERLIN  
22 MAY 1987**

*George Brock-Nannestad, Denmark*

From the point of view of the researcher who desires to use a sound recording as a source to the sonic event purportedly recorded there must be a requirement for traceability. Ideally this means that:

1. all the distortions to the sound signal through the chain to replay of the original recording are known; and that
2. any transfer from the original medium may only involve modifications to the signal that are known and reversible.

In practice these requirements are far from fulfilled.

Present day technology will allow any signal modification during transfer - this is often termed restoration. Hence it is also quite feasible to fulfil requirement 2. It is much more difficult in the case of requirement 1, and it is so much the sadder, since knowledge about the distortions present in the original recording will help and guide later attempts at restoration.

In view of the above, what may be done during restoration? First of all it is important to ensure correct timing of the sonic event, i.e. if pieces of the original recording are missing, they have to be replaced by blank sections of the appropriate duration. The next thing is to correctly identify and remove extraneous noises - this is extremely difficult in the case of mechanical sound recordings because of the deficiencies even of present-day reproducing equipment (and lack of knowledge!). The third is to remove linear distortions in the original recording - by this I mean changes to the characteristic spectrum of the sound originally available. One may attempt removal of non-linear distortion, once more this requires a good model for the composition of the signal. On the perceptual level it is important to provide correct speed of reproduction of the original sound when reproduced in the restored version.

All the above may be performed in a totally objective manner or at least the result may be provided with ample notes that will allow the researcher to manipulate the result in a controlled manner. It is quite a different matter when enhancements to the original sound pose as restoration. It is well known that numerous attempts have been made to introduce reverberation and stereo effects in modern re-issues. These are commercial ventures - presumably quite successful - and it is no longer necessary to warn researchers against them. The general public does not care but it should be warned.

Restoration means putting something back which has disappeared in the publicly available version. This involves judgement, and ethics only comes into the question when the basis for judgement,

the documentation, has been suppressed - and when the result is still represented as the truth. Sadly the general public will trust the word of an "authority" even in cases when the researcher will not, and therefore ethics must mean "responsibility towards the general public". We, the researchers, must admit that in many cases not even we know the truth, but we may have more or less well-documented models!

What can be done to increase the chances of providing objective restorations? The basis for all must be education in the technological history of sound recording in order that the phenomena present on the original recordings may be correctly identified and acted upon. Another important aspect is to provide digital transfers as experiments rather than as the final truth, and to apply them to recordings about which a lot is known, so that constructive comparisons may be made.

### **A NOTE ON REWINDING ARCHIVAL TAPES**

*Paddy Naughton, Doug Smith Australian Institute of Aboriginal Studies, Canberra*

The Australian Institute of Aboriginal Studies, like many other institutions and archives, has long been aware of the need to rewind magnetic tapes to avoid print-through but, like most other establishments, we have not previously done this. With ten thousand tapes, no spare time, too few staff, and all tape recorders fully utilized, rewinding was just not possible. There were always tape recorders to be repaired, video and audio tapes to be copied or edited and one thousand and one other jobs that seemed far more important.

It recently became apparent to the Technical Staff at the Institute that we needed more archive storage space. The video and audio tape collections were growing rapidly and the Institute's building simply had no more rooms available to convert to archives. For some time the Institute had been investigating the possibility of storing tapes off-site, as a safety measure. This was, in fact, done in the 1960s and early 70s when copies of archive tapes were made and stored in the 'Rare Books' section of the National Library of Australia. Eventually, they too ran out of space and could not take any more tapes. So for ten years all of our tapes have been in an old building, one which must be considered a high fire risk.

The National Library of Australia built an annex which contained archive storage facilities. In mid 1987 this was offered to the Australian Institute of Aboriginal Studies for rental. It seemed an ideal opportunity: we needed off-site storage for safety reasons, and we desperately needed extra archive space because of the difficulty of expanding our current building.

Our archive rooms at the Institute are at 16°C whereas the new library annex is at 8°C, because they are using it primarily for film storage. This temperature difference caused some concern as to the effect it would have on our tape collection. In the following months the Institute's Technical Section researched the available information on such temperature changes. We were aware of the fact that tape shrinkage could occur as the result of the drop in temperature. We concluded that this shrinkage could be avoided if the tapes were re-spooled at the eventual storage temperature, that is 8°C. It seemed a daunting task, but it would eventually give us excellent off-site storage, as well as compelling us to rewind our archive collection, a task that we had recognised needed to be done, but was always just too time-consuming.

The Institute has two copies of the original material, the master archive tape on 10.5 inch reels and a library users' copy on 7 inch. As we wanted to keep the copying section of the Institute operational, it was not possible to simply pull all of the recorders out of service and into re-spooling duties.

To overcome this problem we used two Revox A77's which were pulled out of storage, two new Revox PR 99's, one Studer and one MCI recorder. All these machines were serviced, and because each machine had to play so much tape, we removed the heads to save wear and reduce tape contact.

The normal speeds for all the Revox machines were 3.75 and 7.5 inches per second, so in order to do the task as quickly as possible, these machines were modified to enable them to run about 28 i.p.s. We remachined the spindles to twice the diameter and disconnected the speed control circuitry to allow the motor to run at full speed. The Studer and MCI recorders had their speeds adjusted internally.

One of our smaller Archive rooms has been set up for the re-spooling, and the temperature in this room has been dropped to 8°C. The tapes are stored tail out, so they are loaded, rewound, then left to play through. A clock timer is kept outside the Archive room and this is reset each time the tapes are loaded.

Any member of the Technical staff who sees that twenty minutes has elapsed on the timer, goes into the Archive, removes and shelves the re-spooled tapes and loads the next batch. The task is shared by all five members of the Technical staff, but not on any set roster.

Using the six tape recorders, three thousand tapes were re-spooled in three months. While the spooling process was taking place, plans were made for the big move to the National Library.

The Technical Section is on the first floor and the thought of running down the stairs with boxes of tapes, perhaps colliding with empty handed staff coming back up, prompted some inventive thinking among the technicians. The result was the construction of a rail-like system made of 25mm square steel tubing, 8 metres long. One end of this was placed on the window ledge, the other end in the van. The cartons of tapes were loaded onto a trolley and pushed to the window ledge, placed on the rails, then slid down into the van. The tapes were given extra protection from the summer heat by being placed in cardboard boxes, 10 tapes per box, and the windows of the van were covered to stop heating by the sun.

Moving the tapes began at 8am to avoid the hottest part of the day and three loads were taken in that first day. Fortunately the National Library is only about six minutes from the Institute, and the van could be backed right up to the door for unloading. The elapsed time from taking the first carton out of the Institute's Archive room to the last carton going in the Library's cool room, was fifty minutes.

The first batch of three thousand tapes were moved in two days, and at the time of writing, another three thousand tapes have been respoiled and are ready to be moved.



# COPYRIGHT

## Copyright and Sound Archives

*Kurt H. Hodik. Austrian Group of IFPI, Vienna*

**Presented in the Copyright Committee session at the IASA Conference, Vienna, 1988.**

One of the main characteristics of each piece of legislation concerning intellectual property is that this very special type of property is more closely related to the social environment and the cultural tradition than any other kind of property. Therefore the restrictions of the property right concerning the use of existing material are developed in a very elaborate way - the degree of elaboration corresponds to the political weight and lobbying skills of the relevant pressure groups, but also (fortunately) to the principal importance of the fact that cultural progress needs both creativity and the fair and decent use and knowledge of what exists already.

It is precisely in this predicament that the basis of the subject of this contribution lies: How can you - by means of providing good and easily accessible sound archives - provide the necessary fertile ground for new creation and not infringe this fundamental principle of copyright which says that the right-owner has the right to control the use of the results of his creative activity (and - in most cases - gain some profit of this use)?

Coming to the legal aspect rather than discussing the philosophy of intellectual property law (as really useful as this is) it can first of all be stated that in the traditional practice of sound archives no adaptations are made to the material used. If any adaptation, for example, a change in the structure of the sound, the "stereofication" of mono-recordings etc. are planned, the highly personal nature of intellectual property commands that the consent of the right owner has to be sought. In this case, the protection of the creator clearly prevails over the interest of the public to use the material. This "moral right", the right protecting the work against being changed, cannot be transferred, whereas

the "commercial" rights such as (unchanged) public performance or broadcasting, can be assigned to a third-party. Quite often publishers are granted the right to authorise adaptations, but the validity of such an authorisation (granted by a publisher) against the will of the author is doubtful.

Thus the rights exercised by sound archives when dealing with protected material are the reproduction and the distribution rights. These two rights, which are usually (as in this case) closely interlinked, are exclusive property rights for almost all the right-owners (authors, composers, artists, record producers) in almost all legal systems of the civilised world. So the activity of sound archives practically everywhere is to be examined according to the law of copyright in the sense that, if no rule for the free use of protected material applies. A relevant license is needed.

The only rule for the free use of protected material which could apply is the provision that the reproduction right can be exercised without authorisation or payment if the copies are made for private use. This provision, together with the development of the modern technologies of copying both on blank tapes and photocopies of texts and images, has led to important changes in the law of copyright (blank tape levy and levy on photocopying devices). Unfortunately (for the sound archives) this provision does not apply to them: The copying of protected material for sound archives is clearly copying for making this material available to the public, if not today, then tomorrow. Thus, almost "per definitionem" (resulting from the definition of the task of sound archives as understood by a copyright-man) the exception from copyright does not apply, as the Austrian Copyright Act says explicitly: "It is no reproduction for personal use if the reproduction is made with the aim of making the work available to the public by means of this reproduction".

Does this mean that sound archives either are obliged to stop their activities or that they have to pay substantial amounts to the right-owners after having spent even more money in finding out who and where they are? This is the point where collecting societies can exercise their role as intermediaries between right-owners and right-users.

It is the task of collecting societies not only to collect money, but also to collect rights in order to facilitate their use. Thus each collecting society holds certain rights for its members worldwide and - by means of a reciprocal agreement - has these rights exercised in other countries by the respective sister society. This

sister society has the rights of its member exercised by the local society. If for example, Harry Belafonte's *Bananaboat song* is broadcast in Austria, the Austrian society collects money and transfers it to the US society which distributes the royalties to Belafonte. This works also the other way round: if Robert Stolz's music is played in the US, the Austrian society gets money from the US and distributes it to Mrs Stolz, the widow.

This system of reciprocal agreements enables the collecting society to grant licenses for a very comprehensive repertoire and even to indemnify the user for claims of right-owners not represented by the society. The most efficient way of treating the copyright question related to sound archives is in my opinion to establish a contractual relation between the sound archive and relevant collecting societies granting a license for reproduction and distribution. Both licenses, however, have to be strictly limited to use for the purposes of sound archives - it is evident that the archive can never serve as the source for the production of commercially exploited compilations of music.

The structure of such a contract is quite clear from the copyright point of view: The groups of right-owners to be dealt with are the authors and composers on one side, artists and record producers on the other side (as owners of so-called "neighboring rights"). The rights transferred are the rights of reproduction and distribution, not the right to make any changes in the recording. The rights are assigned on a non-exclusive basis and strictly limited to the purposes of a sound archive, especially any commercial exploitation has to be prohibited. In exchange for the indemnification against claims granted by the societies the sound archive has to undertake every reasonable effort to assure that the clauses of the contract (especially as far as the restriction of the rights' assignment is concerned) are respected.

There remains one open question: money. But reasonable negotiations by both partners should lead to reasonable results. The payment of a lump sum appears to be more sensible than a payment per copy which should necessarily be high due to the higher administration costs, since it is in the interest of both the right-owners and the sound archives that the acoustic heritage of our culture be preserved and made available. However, the importance of the task of sound archives cannot prevail over the fact that every use of protected material can only take place lawfully if a license is granted. This exposé tries to describe a way of coordinating the different interests in a simple and cheap way by means of collective licensing bodies.

## COMMENTS ON "COPYRIGHT AND SOUND ARCHIVES"

*Thierry Delcourt, Bibliothèque Nationale, Paris*

This text is quite a good summary of copyright problems in sound archives, but, in fact, these problems depend widely upon the national legislation, even if there are some general problems.

The French legislation seems to be quite different from the Austrian one, and the National Phonothèque has instituted, specific rules with authors, artists and producers.

For instance (p.39), we cannot say that "the reproduction right can be exercised without authorisation or payment if the copies are made for private use". It is true for individual people who make copies (even if they have to pay a levy on blank tapes), or for the Phonothèque itself, when it makes security copies for its own collections. But a person who wants to get copies from the collections of the Phonothèque has to get an authorisation of the producer, and to pay a fee to the authors' society, SACEM; moreover, most of the time, the producer himself demands a fee to give this authorisation. So, we cannot say that the reproduction is free and needs no authorisation.

Therefore, (p.40) the National Phonothèque has no problem in making security copies from its own collections, for it does not have to know the identity of the right-owners, authors or producers.

But I think that the most interesting part of this report is, p.42: "The most efficient way of treating the copyright question related to sound archives is in my opinion to establish a contractual relation between the sound archive and relevant collecting societies granting a license for reproduction and distribution". This is, indeed, the only way to solve copyright problems without stealing from anybody. But, what is possible for an important institution such as INA, Library of Congress, Phonogrammarchiv or National Phonothèque, may be more difficult for a little sound archive: Hodik's proposal thus, should be a national contract between the right-owners and the representatives of the sound or video archives (a Ministry, for example).

Last, I do not agree with the sentence (p.43): "It is evident that the archive can never serve as the source for the production of

commercially exploited compilations of music". In France, for several years, INA has published its collections, mostly with an editor, but also sometimes by itself (for video collections, for example). And the National Phonothèque has reissued some old recordings which are no more protected, because the French law since 1985 has established a public domain for audiovisual recordings (the protection lasts only 50 years from the first publication of a record), even if, sometimes, it had to pay some duties to the authors' society.

In fact, when there is protection for rights-owners, there is also a limit to that protection. When that limit is over, the sound archives may use their collections as they wish.

NB: The page numbers cited in this article refer to the page numbers of the preceding article in this issue. ed.



## **Correspondence of IASA; Correspondence of Claes Cnattingius, Stockholm, 1968-1978**

*Rolf Schuursma, Erasmus University, Rotterdam*

In the 51th issue of the *Phonographic Bulletin* the first group of documents from the History Committee archives was published.

The second group contains correspondence of Claes Cnattingius, Grammofonarkivet of Swedish Radio in Stockholm. The correspondence covers the first ten years of IASA, 1968-1978.

The collection begins with some letters related to the establishment of IASA. When FIP, the *Fédération Internationale des Phonothèques* (see *Phonographic Bulletin* no. 51), did not seem to function, a Provisional Council of FIP with Israel Adler in the chair decided to establish a new organisation which resulted in the founding in Amsterdam of IASA, 1969.

Several members of IAML were involved, amongst them Claes Cnattingius. He became the first Treasurer of the new Association (till 1975) and a lively correspondence came into being with the first secretary, Rolf Schuursma, then in Utrecht. Amongst other correspondents were Don Leavitt, first President of IASA, Tim Eckersley who succeeded him as President in 1972 (Bologna) and David Lance who succeeded Rolf Schuursma as secretary in 1975 (Montreal). Many more familiar names are to be found in the letters, such as Dietrich Lotichius, Harald Heckmann and Dietrich Schüller, who succeeded Tim Eckersley as President in Montreal, 1975. In 1978 Claes Cnattingius became chairman of the Joint IAML/IASA Commission on Music and Sound Archives which was founded during the IAML/IASA conference in Lisbon in the same year.

A letter with information about the Commission ends the present group of documents.

# CORRESPONDENCE OF THE INTERNATIONAL ASSOCIATION OF SOUND ARCHIVES

Correspondence of Claes M. Cnattingius, Stockholm, 1968-1978

## LIST OF DOCUMENTS

*Compiled by Rolf Schuursma, July 1986*

### Explanation

The documents are listed in chronological order with the names of the sender and addressee shown if it was not Claes Cnattingius himself. A short description of the text of each document with reference to matters related to IASA, completes each entry.

Only full first names and family-names are used. Titles have not been added. Addressees of copies are not mentioned.

First (call-) names and family-names are used where possible. Titles have not been added.

Functions are only mentioned when relevant in case of specific document.

Dates or terms between brackets are not based on the relevant document, but are added by the compiler.

1. 4.9.1968  
Minutes of Provisional Council meeting of FIP in Paris

Majority vote in favour of the Provisional Council as sole organ with authority to act for FIP until further notice. Regulation of relations with IAML. Establishment of Constitution Committee and Membership Committee. Israel Adler, President Provisional Council, Chair, and Patrick Saul, Secretary. List of participants.

2. 15.4.1969  
From Roger Décollogne to members FIP

Circular letter. Plan raised during Premier Congrès by President FIP Mondial des Phonothèques (5-12 June 1967)

to establish committees. Proposal for ten different committees and request to sign up for participation.

3. **22.5.1969**  
**From President and Secretary of Provisional Council of FIP to members of Council**  
  
Astonishment at circular letter (see 2.) without approval of Provisional Council. Approval asked to consider that Roger Décollogne would resign unless withdrawal of circular letter.
4. **16.6.1969**  
**From Roger Décollogne**  
  
Explanation of views concerning action of minority against legally recognised FIP. Request to stay with true FIP. Proposal to have meeting with opposing members.
5. **(8.1969)**  
**Provisional Council of FIP: attendance list of Amsterdam meeting**  
  
List of 16 members present or represented, with city of residence and hotel in Amsterdam, and 1 member not present or represented.
6. **(8.1969)**  
**Constitution and By-Laws of IASA**  
  
Constitution and By-Laws approved during session of Provisional Council of FIP in Amsterdam, August 1969.
7. **22.8.1969**  
**Minutes of meetings of General Assembly and Council of IASA in Amsterdam**
  - (a) First General Assembly of IASA after Provisional Council of FIP dissolved. Thanks to members of former Provisional Council and wish for cooperation with Record Library Commission of IAML.
  - (b) First Council meeting of IASA. Urge for legal registration of IASA. Relation with European Broadcasting Union and Record Library Commission, particularly Radio Sound Archives Subcommittee, within IAML. Joint Committee of Record Library Commission and IASA established. List of 24 participants. Donald L. Leavitt, President IASA, Chair, Rolf Schuursma, Secretary IASA.

8. 23.8.1969  
Minutes of meeting of members Executive Board of IASA  
in Amsterdam

Present Don Leavitt. Claes Chattingins (Treasurer of IASA)  
and Rolf Schuursma. Appointments about translation of  
constitution, registration of IASA, next meeting,  
membership, communications and possible inquiry.

9. 13.1.1970  
From Rolf Schuursma

Information about possible members of IASA.

10. 1.4.1970  
From Philip Miller

Information about possible American members of IASA.

11. 25.5.1970  
From Rolf Schuursma

Report of recent talks with Timothy Eckersley in London  
(and Don Leavitt in Amsterdam) about problem of radio  
archives. Meeting in Stockholm of Joint Committee failed.  
Proposal to meet during Leipzig Conference 1970.

12. 1.6.1970  
To Rolf Schuursma

Thanks for report (see 11.). Folke Lindberg key figure:  
when he joins IASA others will follow. Proposal to define  
aims and programme of IASA during Leipzig meeting.

13. 13.6.1970  
Minutes of Council of IASA in Leipzig

Discussion of aims and purposes of IASA and relation with  
radio archives. Discussion of relation with Fédération  
Internationale des Archives du Film and various other  
subjects. List of participants. Don Leavitt, Chair, Rolf  
Schuursma, Secretary.

14. 14.6.1970  
Minutes of joint session of IASA and Record Library  
Commission of IAML in Leipzig

Paper by Virginia Cunningham on MARC 2 Project of Library of Congress. Various subjects for discussion. Comments on draft questionnaire. List of attendants. Don Leavitt, Chair, Rolf Schuursma, Secretary.

15. 14.6.1970  
Minutes of IASA Executive Board in Leipzig

Decisions about discographies, registration of IASA, questionnaire, membership, newsletter and possible contents of first issues, eventual committees, exchange of duplicate records, the end of the Joint Committee and invoices. Don Leavitt, Chair, Rolf Schuursma, Secretary.

16. 26.6.1970  
To Rolf Schuursma

Registration of IASA in Sweden not possible. Better in the Netherlands.

17. 5.3.1971  
From Rolf Schuursma to Don Leavitt

Request for a report on oral history. Pessimism in view of IASA's future. No interest with radio archivists. Urge for cooperation in getting as much as possible done before St. Gallen meeting.

18. 5.4.1971  
From Rolf Schuursma

Complaint about Don Leavitt not answering letters. Waiting for introduction by Don Leavitt to first issue of *IASA Bulletin*. Don will inquire registration in USA.

19. 23/26.8.1971  
Minutes of IASA Executive Board meetings in St Gallen

First meeting: decisions about the programme of the St. Gallen meeting, the *Phonographic Bulletin* and the questionnaire. Second meeting: decisions about membership, editorship, questionnaire, discographies, articles for the *Bulletin*, St. Gallen conference programme, names for new Executive Board and election procedures, programme Bologna conference 1972 and committees. Don Leavitt, Chair, Rolf Schuursma, Secretary.

20. 9.1971

**IASA programme of action 1971/1972, Donald Leavitt**

List of actions to be undertaken by Don Leavitt, apparently composed by Rolf Schuursma.

21. **9.1971**  
**IASA programme of actions 1971/1972, Rolf Schuursma**
- List of actions to be undertaken by Rolf Schuursma, apparently composed by himself.
22. **18.10.1971**  
**To Rolf Schuursma**
- French translation of questionnaire completed. Texts of covering letter and questionnaire enclosed.
23. **25.10.1971**  
**From Rolf Schuursma**
- Letter of thanks (see 22.). French and German version soon. Hope to circulate.
24. **16.11.1971**  
**From Rolf Schuursma**
- Invoices sent. Financing of next *Bulletins*, Bank account opened in Utrecht.
25. **26.11.1971**  
**From Rolf Schuursma**
- List of Dutch discographies soon ready. First payments received. Sent more than 100 application-forms for membership.
26. **8.2.1972**  
**To Rolf Schuursma**
- Failed to contact Mr Wahlberg for article in *Bulletin*. Happy about BBC institutional member. Composition of next Executive Board.
27. **17.2.1972**  
**From Rolf Schuursma**
- About Mr Wahlberg's article. Composition of next Executive Board. Action needed as regards FIP. Programme of Bologna meeting matter of Don Leavitt and Claes Cnattingius.

28. 23.2.1972  
To Rolf Schuursma

Action as regards FIP indeed urgent. Composition of next Executive Board.

29. 16.3.1972  
From Rolf Schuursma

Circular letter has been sent to all members (in relation with FIP). Short while ago talk with Tim Eckersley about Presidency in new Executive Board. Acting without consent of Don Leavitt because he does not communicate.

30. 27.3.1972  
To Donald Leavitt

Rolf's circular letter as regards FIP correct. Registration of IASA still urgently necessary.

31. 27.3.1972  
To Rolf Schuursma

List of discographies for the *Bulletin*. Letters concerning FIP and to Roger Décollogne were good.

32. 13.4.1972  
From Rolf Schuursma

Dietrich Lotichius urges strong action against Roger Décollogne. Harald Heckmann thought we should ignore it. Legal registration of IASA seems futile. Better to win through more quality.

33. 8.5.1972  
From Donald Leavitt

Action against Roger Décollogne suitable. Sorted out hundreds of old snapshots and sending a few.

34. 9.5.1972  
To Rolf Schuursma
- Amendments of list of discographies. Further to Roger Décollogne and IASA's counteractions.
35. 15.5.1972  
To Donald Leavitt
- Composition of Nominating Committee. Contribution by Claes Chattingius to Bologna meeting. Eventual technical committee.
36. 12.6.1972  
To Donald Leavitt
- Details of Bologna programme. Need for basic training course on technical matters. Plan for a cataloguing committee raised again.
37. 23.6.1972  
From Donald Leavitt
- Composition of Nominating Committee. Details of Bologna programme: meeting for election and matters regarding FIP; discographic control; technical session with Robert Carneal, Library of Congress. Eventual committees are a point for next Board.
38. 29.7.1972  
From Patrick Saul
- Letter with copy of letter to Rolf Schuursma included. Himself not another term. Tim Eckersley for President excellent choice. Urges efforts towards fusion of IASA and FIP. Deplores his own former encouraging a split. Wants true federation of sound archives and no other bodies.
39. 13/14.9.1972  
Minutes of two IASA Executive Board meetings in Bologna
- (a) First meeting: Israel Adler present while discussion about programme for Jerusalem meeting 1974; decisions about contact with UNESCO and to ignore FIP; discussion about composition of the Council; talk about the London meeting 1973; decisions about drive for members, discographies and official letter to Hungarian Government about Ivan Pethes member of the Board.

- (b) Second meeting: discussion of Dr Harold Spivacke's paper on *Broadcasting, Sound Archives and Scholarly Research*; decisions about other articles for the *Bulletin* and the Jerusalem programme 1974; doubt about Jerusalem as suitable meeting place for IAML/IASA; eventual small IASA-conference in Europe. Need for statement of IASA's aims.

40. 19.10.1972  
To Rolf Schuursma

Thanks for reception in Utrecht. Needs text of minutes of the Bologna meeting. Changes in questionnaire.

41 15.12.1972  
From Rolf Schuursma

Minutes (see 40.) only with *Bulletin* no. 4. Bob Carneal's article and perhaps Mr Wahlberg's article for no. 5.

42. 18.2.1973  
From Ivan Pethes

Delayed sending of text of earlier letter. Needs list of national discographies.

43. 26.2.1973  
From Rolf Schuursma to members IASA Executive Board

Delay of work because of trip to the USA. Dietrich Schüller came to visit with plans for IASA meeting in Vienna at the occasion of 75 years Phonogrammarchiv. Discussion of pro's and con's in relation with Jerusalem and/or Vienna. Plea for Vienna only. News of Second Congrès Modial of FIP in Brussels.

44. 2.3.1973  
To Ivan Pethes

Will send list of discographies.

45. 16.3.1973  
To Rolf Schuursma

Jerusalem not a good meeting place, but two meetings in one year not feasible. Prepare for both possibilities while expecting decision.

46. 27.3.1973  
From Rolf Schuursma

Got several letters concerning the Jerusalem/Vienna debate. Requests contact with Mr Wahlberg.

47. 4.4.1973  
To Rolf Schuursma

Decision about Jerusalem must wait. Mr Wahlberg will not deliver article.

48. 9.5.1973  
From Rolf Schuursma to members IASA Executive Board

Dietrich Schüller expects decision about Vienna meeting. Talk with Tim Eckersley and Harald Heckmann in London some days ago. Agreement that IASA has to participate in Jerusalem meeting. Proposal also to have special theme for discussion in Vienna. Details about the programme of the London meeting. Representative to meeting of International Film and TV Council: Tony Trebble.

49. 23.5.1973  
To Rolf Schuursma

Not in favour of two meetings in 1974. Details about London Programme.

50. 29.5.1973  
From Rolf Schuursma

Pleased with continuous close contact with Tim Eckersley.

51. 29.5.1973  
From Rolf Schuursma to Timothy Eckersley

Claes Cnattingius not in favour of two conferences in 1974. Proposal to pass Schüller's invitations to IASA membership, to send official representation of Executive Board and eventually to take care of two papers.

52. 16.7.1973  
From Timothy Eckersley

Invitation to join supper at his home during conference.

53. 14.8.1973  
To Rolf Schuursma
- Requests a balance of IASA's finances to present at London meeting.
54. 17.8.1973  
From Rolf Schuursma
- Balance (see 53.) ready in London.
55. (27.8.1973)  
IASA Financial Review 1972-1973
- Financial review, apparently prepared by Utrecht Bureau and presented by Claes Cnattingius during Business Meeting of IASA in London, 27 August 1973.
56. 30.11.1973  
From Rolf Schuursma to Timothy Eckersley
- Thanks for letters of 13 and 23 November 1973 re article by Professor Oliver (letters missing). Dietrich Schüller good choice for President of IASA. Got article by David Lance. He also good choice for next Executive Board.
57. 23.1.1974  
From Rolf Schuursma
- Details about eventual new members.
58. 7.3.1974  
Minutes of IASA Executive Board meeting in Paris
- Present Tim Eckersley, President, Claudie Marcel-Dubois, Vice-President, Rolf Schuursma, Secretary. Decisions dependent on approval of other members. Discussion of Jerusalem programme, increase of dues, composition of Nominating Committee, *Phonographic Bulletin*, questionnaire final report, suggestions for a conference in the Imperial War Museum (David Lance) and Standardisation committee.
59. 29.3.1974  
To Rolf Schuursma
- No objections to Paris proposals (see 58.). Suggestions for composition next Executive Board. No success with membership drive in Sweden.

60. 21.5.1974  
From Rolf Schuursma
- Answer to letter from Claes Cnattingius of 6 May 1974 (missing). Composition of new Executive Board and division of tasks in the next Board. Utrecht Bureau overburdened. Misunderstandings about sessions Record Library Commission.
61. 4.7.1974  
To Rolf Schuursma
- Will come to Jerusalem. Uncertainties about Record Library Commission meetings.
62. 8.7.1974  
From Rolf Schuursma
- Details about Record Library Commission sessions and about a joint session in Jerusalem.
63. 11.10.1974  
From Rolf Schuursma to members IASA Executive Board
- Report on informal meetings of the Executive Board in Jerusalem, there being no quorum. Proposals about Montreal programme 1975, composition new Executive Board, ibidem Nominating Committee, deadline for decisions. Participating in the Executive Board meetings in Jerusalem: Timothy Eckersley, President, Claes Cnattingius, Treasurer, Rolf Schuursma, Secretary. Don Roberts, Past-President of ARSC, once taking part.
64. 11.10.1974  
From Rolf Schuursma
- Certain standard of quality kept up during the Jerusalem meeting. Minutes of the two business meetings held in Jerusalem included (missing).
65. 28.10.1974  
From Rolf Schuursma to members IASA Executive Board
- Copies of papers relating to UNESCO-membership (missing). Request for comments.

66. 27.11.1974  
From Rolf Schuursma
- Thanks for encouragements as regards UNESCO-membership. Swedish Government report (for integrated audiovisual archive) on Montreal programme. No communication possible with Ivan Pethes.
67. 13.3.1975.  
From Rolf Schuursma to Anders Lönn, Secretary General of IAML
- Detailed programme of IASA during Montreal meeting. Coordination with IAML President Harald Heckmann and IASA representative in Montreal, Léo LaClare.
68. 16.5.1975  
To Rolf Schuursma
- Can not come to Montreal. Proposal to send a paper relating to legal deposit. No English translation of Swedish Government report (see 66.). Costs of translation.
69. 28.7.1975  
From Rolf Schuursma
- Would indeed like paper on legal deposit. Possible solution for translation Swedish report.
70. 6.8.1975  
To Rolf Schuursma
- Letter with typewritten copy of paper by Claes M. Cnattingius, *Legal Deposit of Sound Recordings in Sweden. Remarks on the Present State and the Future.*
71. 3.9.1975  
From Rolf Schuursma
- Informal report about Montreal meeting. Had suddenly to take place of Claes Cnattingius during IAML panel on discographic standards. Successful reception of paper (see 70.). Start of new Board and division of former tasks of Utrecht Bureau. Support by Phita Stern, (Secretary of Rolf Schuursma) in Montreal. Hope to meeting in Bergen 1976.

72. 30.9.1975  
From Dietrich Schüller
- Letter of thanks to outgoing Treasurer by new President of IASA.
73. 1975 (after Montreal meeting)  
Circular letter from Léo LaClare to IASA members
- Regulations in three languages with regard to payment of dues to the new Treasurer.
74. 22.3.1976  
From David Lance
- New Secretary of IASA invites Claes Cnattingius to organize session on Scandinavian sound archives in Bergen 1976, together with Tor Kummen. Also invitation to contribute to session on national sound archives.
75. 22.3.1976  
From David Lance to Tor Kummen
- Invitation to organise social evening for IASA members during Bergen meeting. Ibidem to take part in meetings of IAML organisational committee and to organise together with Claes Cnattingius session on Scandinavian sound archives.
76. 13.4.1976  
To David Lance
- No success in finding speaker on Swedish Government report on integrated audiovisual archive. Has reported himself already twice. Will help Tor Kummen organise session on Scandinavian sound archives.
77. 6.5.1976  
From David Lance
- Urgent request on behalf of the Executive Board to contribute to session on national sound archives with details of themes.
78. 11.5.1976  
To David Lance
- Displeasure with letter from David Lance (see 77.). Only willing to comment informally from the floor.

79. 13.5.1976  
From David Lance

Offers compromise: few informal words but then as part of panel. Request for plans for joint session of Record Library Commission and IASA, also in the future.

80. 18.5.1976  
To David Lance

Agrees reluctantly with proposal (see 79.). No themes for the Record Library Commission and Joint Session. Don Leavitt does not communicate. Can David Lance help?

81. 25.5.1976  
From Rolf Schuursma

Urges to accept invitation to participate in session on national sound archives. Approach from multi-media aspect necessary.

82. 3.8.1976  
To Rolf Schuursma

Letter with typewritten copy of paper by Claes M. Cnattingius, *National Research Archives - Specialized or Multi-Media Archives?*

83. 6.9.1976  
From David Lance

Letter of thanks for contribution to the Bergen meeting. Handwritten request added for suggestions for Mainz programme 1977.

84. (1977 [end] or 1978 [beginning])  
Circular letter from David Lance to eventual contributors to Lisbon meeting of IASA, 1978.

Invitation to contribute to session in Lisbon (1978) on *The International Sound Archives Movement: its History, Present Situation and Future Prospects*. Additional handwritten request to Claes Cnattingius to chair session if Tim Eckersley does not come.

85. 3.3.1978  
From David Lance to Herbert Rosenberg

Thanks for letter of 22 February 1978 (not included). Pleased with promise to take part in session in Lisbon (see 84.). Details about the session. Welcomes Herbert Rosenberg's apparent statement in favour of IAML-IASA cooperation, as contribution to discussion.

86. 31.8.1978  
From Rolf Schuursma

Letter in relation with the Joint IAML/IASA Committee on Music and Sound Archives, established in Lisbon, 28/29 July 1978. Document on the agreement included (missing). Proposal for additional officers in the committee from IAML and IASA: Marie-France Calas and Derek Lewis. Two sessions proposed for Salzburg 1979. Discussion of IAML decision to keep the Record Library Commission alive.



## DISCOGRAPHY

### Evaluating discographies of classical music

*Martin Elste, Staatliches Institut für Musikforschung PK, Berlin (West)*

**Presented in the Discography Committee session at the IASA Conference, Vienna, 1988.**

During the past fifteen years or so discographies have sprung up like mushrooms. Almost every musician's biography published nowadays carries a list of recordings, and, to this, one has to add the numerous discographies in specialist magazines as well as those published separately. Yet, many are not in keeping with any scholarly standards whatsoever. Few show consistency in the gathering of information as well as intellectual and practical knowledge of their compilers. We are all constantly faced with the obvious drawbacks of record catalogues like *Bielefelder*, *Schwann* and *Diapason*, all of which depend on information supplied by the record industry and which are intended to serve the dealers' and customers' needs for selling and buying records. Since the record business has not yet reached a standard of labelling and cataloguing its own products equivalent to that of book publishers, it is up to the discographer to introduce a semblance of order in the chaos bequeathed by the record industry.

My own experience as a compiler of discographies goes back to the time when I was nineteen and just beginning a straight musicological education at university. At that time I was asked by a musicologist if I could assist him in collecting data for a discography of the works by Heinrich Schütz. I agreed and became quickly and thoroughly involved; in fact, my interest grew so much that eventually I ended by becoming the co-author of a 232-page-long publication.<sup>1</sup>

The discographical research which on my part lasted for just ten months made me develop an intimate relationship with the material straight from scratch, and yet, after the result of this

labour was printed, I still could not tell you if in *World Encyclopaedia of Recorded Music's (WERM's)* label indication "AmC." decoded as "American Columbia (U.S.A.)", the adjective "American" was part of the label or just an added piece of information to hint at the origin of this brand of Columbia records. The reason for my lack of precise knowledge was obvious: though I travelled within Europe collecting information about Schütz recordings, neither funds nor time was available to visit one of the American sound archives, and though I communicated with many musicians, I did not consult any discographer who could have enlightened me with regard to such tricky questions. I simply did not know the right people to ask. I did not know of IASA nor of ARSC.

In the course of my vested interest in discography, I naturally got to know these two associations and even became a member of them rather early in my career. In fact, if I am not mistaken, I was the first student member of either organisation, though I had to pay full dues and was presumably the only person attending the Mainz IAML/IASA conference in 1977 who had to pay all costs out of his own pocket, but never mind. Nowadays I realise that a number of people involved and interested in discography still do not know of ARSC and of IASA. I think that this is not necessarily their fault, because our two professional organisations should try to become better known among the potential users of their member archives. IASA, particularly, should widen its horizon with regard to the questions, problems, and interests of users of sound archives. This, however, is just a side note, and I must return to my first discographical work.

Sixteen years later, I feel free to tell you that in those months of intense occupation with a vast amount of Schütz recordings- and eventually I even had nightmares at a time when I was proofreading against the deadline- in those months I did not listen to a single bar of Schütz's music. Only years later did I come to appreciate the music by this master musician. Still, I knew everything one could have read about the recordings, but my knowledge was confined to the written word.

If you ask me now what I think about this situation and my first book, I can assure you that I tried my best but if I were to compile a second edition, I would do it differently. Why?

This question brings us to the topic of this paper; evaluating discographies means setting a standard of rules from the viewpoint of the *user* of discographies. As a *user* of my own

discography, I realise that it has two basic conceptual drawbacks; it does not distinguish clearly between a catalogue of record holdings and a discography, and it does not meet essential criteria of a reference tool. Although every bit of information listed was obvious to me when I was so deeply involved in compiling Schütz's recordings, years later I face quite a few problems of deciphering the information given in my own book.

Let me dwell first on the conceptual drawback of not having distinguished between a catalogue of record holdings and a discography, stressing the important difference between the two. The difference is essentially the same as between a library's catalogue of books and a bibliography. Whereas the catalogue refers to specific holdings and identifies individual copies of media units, a bibliography refers not just to one copy of a book but to the book as an intellectual unit which has been manifested in one or a number of editions, and it might even comprise the listing of all editions published of a given book. This bibliographic description can also be applied to a discography.<sup>2</sup>

An illustration of this difference may be seen in the recently published listing of historical sound recordings held by the Deutsches Musikarchiv<sup>3</sup>, which is, strictly speaking, not a discography but a catalogue of holdings. On the other hand, the Oakwood Press's *Voices of the Past*, which is well-known among collectors, consists of discographies, admittedly of the simplest kind. Among similar record listings, too many publications have been pretentiously called "discographies" although their standards of compilation do not even meet the standards of some manufacturers' catalogues, such as the elaborate dealers' catalogues by EMI and Decca.

This distinction is important because it points to two different ways of assembling data. In the case of the Deutsches Musikarchiv (DMA) catalogue, the compilers transcribed the information from the records that they had on their shelves. Occasionally they might have wanted to add supplementary information, but, nevertheless, the frame of collecting data was governed by the actual holdings. Although I do not want to underestimate the importance of such a catalogue and the amount of labour required to compile it, nevertheless the compiler's task is relatively straightforward and mechanical due to the absence of critical assessment. The basic source of the items to be catalogued is not the actual sound but the printed word on the label, sleeve, or other printed material (label catalogues, release sheets, etc.). The work is a bibliographic nature, slightly modified and adapted to phonograms.

The compiler of a discography, however, usually cannot rely upon a bulk of records ready for transcribing the information printed on the label area and the cover. Of course, he starts with some records at hand, but in most cases he must gather supplementary information from a variety of sources, such as record catalogues, release sheets, copyright sheets, record magazines, dealers' lists, archive catalogues, and so forth. These sources ought to be assessed carefully and the state of assessment can be deduced through the style of citation. I propose a layout which distinguishes three levels of information.

1. Data deriving from the visual image of the phonogram and its accompanying material (box, cover, sleeve, container, leaflet, etc.).
2. Data established from secondary sources not associated directly with the phonogram (manufacturers' catalogues, numerical lists, national discographies, reviews, etc.).
3. Data personally checked by means of listening to the recording itself.

A practical way to distinguish these three levels is the use of italics (or underlined characters) and square brackets. The famous shellac disc of Leopold Stokowski's orchestration of the Bach Toccata demonstrates my point.

The label of the English issue says "Toccata and fugue" by "Bach". If you check various catalogues, you quickly come to the conclusion that this "Toccata and fugue" must be the Toccata d minor BWV 565. You cite this correct title, which is generally acknowledged, in square brackets. You can print this information in italics or underlining only after you have verified this attribution by listening to the sound recording. This extra step seems superfluous in the case of this well known recording because the music may be easily identified by looking into a thematic catalogue. In the case of repertoire which is not as easily identifiable, however, such a pedantic distinction between verified and inferred information is the only scholarly approach to discography; the more so as the standard of labelling is extremely low.

**Note:**

Data verified by personal listening is indicated by italics of underlined characters; data taken from secondary sources is in square brackets; data taken from the phonogram and accompanying material is in normal characters.

Example:

BACH (Johann Sebastian):

[*Toccatà d-minor BWV 565* ] Toccata and fugue [orchestrated by Leopold Stokowski]

Leopold Stokowski, cond./Philadelphia Symphony Orchestra  
HIS MASTER'S VOICE; D 1428

Seeing as I am raising some detailed questions of the layout of discographies, I would like to say something about numbers. At the very beginning, phonograms were given numbers by their manufacturers. A discography without such numbers, be they order numbers, record numbers, matrix numbers, take or set numbers, is no discography. Ideally, all numbers under which a given recording has been marketed should appear; however, matrix numbers are worth citing only if they help to establish a recording chronology or if they help to distinguish between different recorded versions of a given programme (ie. if there have been different "takes" of a recording released under an identical record number). This usually occurs only in the case of 78's. For LP's, matrix numbers are merely an important means of identifying a given copy of a mass-manufactured disc, which is a sensible procedure for a catalogue of holdings but not for a discography unless the compiler draws conclusions from a specific copy that is different from other copies of the disc.

Every book-length discography should have a series of indexes for labels, performers, and appropriate categories. An index by order numbers and record numbers at least is essential, and these ought to be standardised so to fit into a sensible numerical sequence. It is vital to understand the numbering systems used by the record companies, and I suggest drawing strict distinctions between a dash (-) and a stroke (/). Dashes should separate individual sections of a number, but strokes should always denote a sequence of numbers. For example, 420 213/15-2 should be used as an abbreviated form of the following numbers constituting one sequence of discs: 420 213-2, 420 214-2, and 420 215-2. A brief yet useful introduction to the problems arising with record numbers is given by Robert Skinner ("Interpreting publishers' numbers on recordings" in *Newsletter*, Music Library Association, No. 39-November/December 1979, pp.3-5).

It is essential that a reference tool be easy to use; a discographer must know that the user of the discography will consult it for only short periods of time. Therefore, the layout is of vital importance, and most pieces of information should be self-explanatory.

Apart from the use of different characters in order to distinguish different philological levels of information, a well-conceived typographical format can make the discography easy to use. R.D. Darrell, the doyen of classical discography, makes this point when he discusses the impact of his *Gramophone Shop Encyclopedia*.<sup>4</sup> Also, the uniform typesetting of many computer-based discographies makes the data hard to read.

It may sound foolish, but experience shows that wide margins are an absolute necessity. Discographies are always works in-progress, and typesetters, in wanting to save paper, seldom take into account the fact that each individual user will want to annotate his copy of a published discography as soon as new re-issues come out. Such savings of paper are not valid for discographies.

I do not plead for a common set of rules for the layout of discographies. Many may regard the arrangement used by *The Gramophone Shop Encyclopedia of Recorded Music*<sup>5</sup> and by *WERM* as models for classical music discography; in any case, it is extremely practical for listings of 78's. This is because 78's rarely have more than one composition on each side, which accounts for easy attribution of the composition recorded on the phonogram as such. Nowadays, discographies should be quite different from those two published up to the mid-1950's. Remember that they appeared before national catalogues like *Schwann* and the *Gramophone Classical Catalogue* were established. In their time, discographies like *WERM* served partially as the periodic catalogues of today. Any attempt to update the task of Clough and Cuming will fail because of the enormous increase in recorded repertoire. Most of the labour invested would duplicate information previously listed that is available through periodic catalogues; therefore, discographical work should fill in the gaps of information left by company catalogues and commercial listings.

Some examples will illustrate my point.

1. Josquin des Pres has composed two Missae *L'homme arme*, but neither Coover/Colvig<sup>6</sup> nor *WERM* identify the recorded masses accordingly.

2. Out of approximately 45 recorded ensemble performances of Bach's *Art of fugue* almost all differ as to instrumentation and order of movements.<sup>7</sup> The only way to make proper attributions is to listen to the recordings.

3. Purcell's *Dido and Aeneas* can be performed only from an edited amalgamation of different manuscripts, and therefore, from a classification viewpoint, it is helpful to list the edition used.

Although most examples like these occur in pre-classical music, many recordings of later compositions also need further clarification. For example, omissions in opera require special attention for the discographer.

The discographer needs to determine which pieces of information are necessary for his catalogue. Compiling a discography of Renaissance dances requires listening and subsequent attribution to a printed music edition. There are hundreds of different dances with identical titles that refer, usually, to the rhythmic pattern of the music, so that the mere statement of a title such as *Passamezzo* or *Air* gives only a mere hint to what the listener will hear. If I want to know what is on a particular record in order to compare two or more realisations of one composition, I must have further help by the discographer. As a musicologist, I regard such discographical tools highly, but unfortunately there are only a few. An example of a discography not suited to its repertory is Coover and Colvig's piece on medieval and Renaissance music on records.<sup>8</sup> The authors did not take into account the particular flexibility of pre-classical compositions regarding sound in general and instrumentation in particular; instead, they listed all of the compositions as if they were symphonies by classical composers. They did not envision the special role this discography could play in distinguishing between arrangements of the same notation.

Any discography should give dates, such as of recording, first issue, re-issue, and of deletion, but it is not feasible to include all of these dates. These dates can be deduced from secondary sources for historical phonograms, and citing the year in question will, in most cases, suffice. Although phonograms are pressed on demand in batches of hundreds or thousands of copies, the year when an issue appears in the catalogue for the first time is as useful as the citation of the year of publication in a bibliography.

Many performer-oriented discographies have been arranged by recording sessions, and this is certainly a good way for direct-to-disc recording (primarily, for shellacs); however, it is not always

possible to trace back individual sessions for tapes performances. Therefore in the case of LP, EP, and CD recordings, this arrangement is not recommended. A case in point is Alan Sander's *Walter Legge. A discography*. (Westport: Greenwood Press, 1984). The relevance of the individual recording session for the finished phonogram is out of reach for the discographer; he cannot tell which track of which session was used for the end product.

Many discographers believe that the user is interested in individual compositions and their realisations in sound, but that he does not care about the contents of a phonogram that is a collection of various items. This might apply to the catalogue of a collection but it is certainly not true for a discography, particularly since many performances are available in a variety of editions and it is often good to know the other pieces on a disc.

To sum up, I plead for thorough discographical research that complements the diverse listings made by non-discographers. Adding yet another listing is, to my mind, a waste of time and energy. Discographies should be judged by what they convey in addition to data already known through common catalogues like *Schwann* and *Bielefelder*.

Thorough discographical research is only feasible when sound archives make their resources available to discographers and discologists. During the past ten years this situation has improved but it is still far from ideal. The repeated listening facilities now at the British National Sound Archive where a cassette deck with a non-removable cassette is at the disposal of the listener is a step in the right direction.

The professional sound archivist should realise that his treasured material is a medium not unlike a book, and cataloguing a book is merely necessary to make it available to the reader. The ultimate purpose for collecting it, however, is not to catalogue it but to make use of it, learn from its contents, work with its ideas, and get its message.

It might sound unfair, but many sound archives, although willing to help, cannot offer the facilities required for proper discological research. Communication is the keyword to solving this problem. Sound archives cannot exist on their own for this purpose; they need interchange of research material from libraries and other archives. The aural world is no separate cultural identity for it is linked closely to visual images and writing. Archiving sounds is

just a fraction of archiving culture, and it is the entire scope of information that we are after.

### Acknowledgements

The author wishes to thank Marie P. Griffin and George Brock-Nannestad for valuable ideas included in the present version of this paper.

### Notes:

1. Klaus Blum and Martin Elste: *Internationale Heinrich Schütz Diskographie*. 1928-1972. Bremen: by the authors/Edition Eres 1972.
2. Cf. Lanzke 1984 (cited in bibliography below).
3. *Historische Tonträger im Deutschen Musikarchiv. Labelkatalog*. Berlin (West): Deutsche Bibliothek, Deutsches Musikarchiv 1988 ff.
4. R.D. Darrell: *O Pioneer! (A Half Century Later)*. IN: ARSC journal. xix (1987) No.1, pp. 4-10, here pp.6-7.
5. R.D. Darrell: *The Gramophone Shop Encyclopedia of Recorded Music*. New York, N.Y.: The Gramophone Shop, Inc. 1936, and later editions.
6. James Coover and Richard Colvig: *Medieval and Renaissance Music on Long-Playing Records*. Detroit: Information Service, Inc. 1964.
7. Cf. Martin Elste: *Bachs Kunst der Fuge auf Schallplatten. Mit einer Diskographie aller zyklischen Aufnahmen*. Frankfurt am Main: Buchhändler-Vereinigung GmbH 1981.
8. See footnote 6.

## APPENDIX

### **Bibliography of literature on the methods of discography**

This annotated bibliography lists selected literature on the subject. No attempt has been made to include all proposals and standards for visual cataloguing.

*The Acquisition and cataloguing of music and sound recordings: a glossary.* Compiled by Suzanne E. Thorin and Carole Franklin Vidali. Music Library Association 1984, 40 pp.

ISBN 0-914954-32-6

= MLA technical report no. 11.

ISSN 0094-5099

ALLEN, Walter C.:

"Discographical musicology." In: *Journal of jazz studies*. i (1973/74) No. 2, pp. 27-37

**Important essay with many useful suggestions and ideas**

*Anglo-American cataloguing rules. Second edition* ((...)) edited by Michael Gorman and Paul W. Winkler. The Library Association (c) 1978, xvii, 620 pp.

ISBN 0-85364-681-9 (hard cover)

ISBN 0-85365-691-6 (paperback)

**Simultaneously published by the American Library Association and the Canadian Library Association. There is a chapter on 'Sound recordings' (pp. 144-163) and 'motion pictures and video recordings' (pp. 164-181).**

Association for Recorded Sound Collections / Associated Audio Archives. *Rules for archival cataloguing of sound recordings.* Association for Recorded Sound Collections (c) 1980, vi, 65 pp.

*Le catalogage des enregistrements sonores / The cataloguing of sound recordings / Die alphabetische Katalogisierung von Tonträgern.* Bearb. v. Simone Wallon, Kurt Korfmüller unter Mitwirkung v. Yvette Fédoroff, Virginia Cunningham. Frankfurt, London, New York: C.F. Peters 1983, 105, 20 pp. = Code international de catalogage de la musique. Vol. v.

CLOUGH, F.F. and CUMING, G.:

"Problems on an international gramophone record catalogue." In: *Fontes Artis Musicae*. iii (1956), pp. 95-108.

**On problems that came up in the course of compiling WERM.**

CONNOR, D. Russell:

"What is discography: Its goals and methods?" In: Allen, Walter C. (ed.): *Studies in jazz discography. i.* New Brunswick, N.J.: Institute of Jazz Studies, University Extension Division, Rutgers University, The State University of New Jersey (c) 1971, pp. 1-7.

CUMING, Geoffrey:

"Problems of record cataloguing." In: *Recorded sound*. i. (1961/62) No. 4, pp. 116-122.

**No systematic study but an essay on problems in cataloguing occurring**

regularly in the case of certain composers. Cuming demonstrates that the primary source for cataloguing should be the recorded sound and not the printed sleeve information.

DAILY, Jay E.:  
*Cataloguing phonorecordings. Problems and possibilities.* New York: Marcel Dekker, Inc. (c) 1975, xvi, 172 pp. ISBN 0-8247-6196-0 = Practical library and information science. Edited by Jay E. Daily. Vol. 1.

Though comprehensive in size, the book is not recommended as a guide to discography. Cf. the reviews cited in Barbara Knisely Gaeddert: *The classification and cataloguing of sound recordings: an annotated discography, 1977.*

EICK, Barbara; Gretchen Wolff Pritchard and Richard Warren: "A discotopology primer." In: *Association for Recorded Sound Collections-journal*. xiii (1981) No. 1, pp. 4-19.

**A brief and systematic glossary of discographical terms in connection with the visual description of sound recordings.**

ELSTE, Martin  
"Schallplatten-Terminologie." In: *Fono Forum*. (1982) Hf. 1, S. 52-53; Hf. 2, S. 48-49; Hf. 3, S. 52-53; Hf. 4, S. 74-75; Hf. 5, S. 66-67; Hf. 6, S. 66-67; Hf. 7, S. 66-67; Hf. 8, S. 66-67; Hf. 9, S. 98-99; Hf. 10, S. 66-67; Hf. 11, S. 66-67; Hf. 12, S. 70-73.

**A glossary of some 450 terms regarding the discographical,**

**technical, marketing and legal aspects of sound recordings. English equivalents are given.**

FOREMAN, Lewis:  
*Systematic discography.* London: Clive Bingley (c) 1974, 144 pp. ISBN 0-85157-161-1.

**The author reports important and unimportant methods of discography. There are useful sample pages from discographies dealt with and many bibliographic references. The value of this study is reduced due to many slips that occurred in the course of research and proof-reading.**

GAEDDERT, Barbara Knisely:  
*The classification and cataloguing of sound recordings: an annotated bibliography.* Ann Arbor: Music Library Association (c) 1977, 32 pp. ISBN 0-914954-10-5 = MLA technical reports No. 4. ISSN 0094-5099

**Deals with American writings including book reviews.**

GRAY, Michael H.:  
"Discography: its prospects and problems." In: *Notes*. xxxv (1978/79) No. 3. pp. 578-592.

**A brief survey of different methods of discography, mainly devoted to the Anglo-American realm. In addition, Gray lists a selection of the most important discographical secondary sources (catalogues, numerical discographies, contemporary record magazines, artist and composer discographies). Altogether this is a very practice-oriented**

**article with useful pieces of information.**

GRIFFIN, Marie P.:

"Jazz discography in the computer era: The IJS jazz register and indexes." In: *Phonographic bulletin*. No. 38 (March 1984), pp. 8-21.

KELLY, Alan; John F. Perkins and John Ward:

"Discography: which goals are attainable?" In: *Recorded sound*. No. 59 (July 1975), pp. 453-455.

**Discusses the rules stated by J.F. Weber in *Recorded sound* Nos. 57-58.**

KÖHLER, (K((arl))-H((einz))):

"Zur Problematik der Schallplatten - Katalogisierung." In: *Music libraries and instruments. Papers read at the joint congress, Cambridge, 1959 of the International Association of Music Libraries and the Galpin Society*. ((...)) London, New York: Hinrichsen Edition (c) 1961, pp. 110-119 = Hinrichsen's eleventh music book.

LANZKE, Heinz:

"Diskographie und Schallplattenkatalog. Gezeigt am Beispiel Beethoven und Beecham." In: *Ars iocundissima. Festschrift für Kurt Dorf Müller zum 60. Geburtstag*. Hrsg. v. Horst Leuchtmann u. Robert Münster. Tutzing: Hans Schneider 1984, pp. 179-187.

McMULLEN, Mary:

"Discography: objectives and standards." In: *Phonographic*

*bulletin*. No. 42 (June 1985), pp. 14-25.

*Non-book materials. Cataloguing rules. Integrated code of practice and draft revision of the Anglo-American Cataloguing Rules British Text Part iii prepared by the Library Association Media Cataloguing Rules Committee*. ((London)): National Council for Educational Technology with the Library Association (c) 1973, 129 pp. ISBN 0-902204-22-X = Working Paper. No. 11.

NYÉKI-KÖRÖSY, Maria:

*Les documents sonores. Précis de discothéconomie*. München, London, New York, Oxford, Paris: K.G. Saur 1987, 379 pp. ISBN 3-598-10435-9.

*L'oral en fiches. Manuel de traitement documentaire des phonogrammes*. Réalisé dans le Département de la Phonothèque nationale et de l'Audiovisuel de la Bibliothèque nationale, par Elizabeth Giuliani avec la collaboration de Thierry Delcourt et le concours de Marie-France Calas. Paris: Association française d'archives sonores 1985, 201 pp. ISBN 2-905343-02-8.

RAVILLIOUS, C.P.:

*A survey of existing systems and current proposals for the cataloguing and description of non-book materials collected by libraries, with preliminary suggestions for their international co-ordination*. Paris: United Nations Educational, Scientific and Cultural Organization 1975 (mimeographed), 129 pp.

*Regelwerk der Musik. Inhalt: Richtlinien für die Katalogisierung von Tonträgern. Anleitung zur Erfassung von Archivdaten (AERA Musik). Beispielsammlung. 1975.*

© 1972 and 1975 by ARD-Arbeitsgruppe 'Regelwerk Hörfunk'. Loose-leaf publication for the internal use by the West German ARD broadcasting corporations.

"Regole per la catalogazione dei documenti sonori, a cura di F. Pomponi Boceda con la collaborazione di M.P. De Bartolo, M. Donà e A. Zecca Laterza." In: *Ministero per i Beni Culturali ed Ambientali. Manuale di catalogazione musicale.* Roma: Istituto Centrale per il Catalogo Unico delle biblioteche italiane e per le informazioni bibliografiche 1979, pp. 37-54.

*Rules for descriptive cataloguing in the Library of Congress. Phonorecords. Preliminary edition.* Washington, DC.: The Library of Congress, Descriptive Cataloguing Division 1952/1956, 10 pp.

RUST, Brian:  
*Brian Rust's guide to discography.* Westport, Conn.; London: Greenwood Press (c) 1980, x, 133 pp.  
ISBN 0-313-22086-7  
= Discographies. No. 4.  
ISSN 0192-334X

**A rather superficial introduction to discographical research, primarily directed towards jazz and light music.**

SCHARLAU, Ulf:

"Probleme und Möglichkeiten der dokumentarischen Bewertung Leichter Musik in den Rundfunkarchiven." In: *Musikdokumentation gestern, heute und morgen. Harald Heckmann zum 60. Geburtstag am 6. Dezember 1984.* Hrsg. v. Wolfgang Rehm. Kassel u.a.: Bärenreiter (c) 1984, pp. 66-70.  
ISBN 3-7618-0749-X.

SCHÜNEMANN, Georg:

"Systematische Musikwissenschaft. Zur Katalogisierung der Phonogramm-Archiv." In: *Archiv für Musikforschung.* i (1936), pp. 252-253.

Reprinted in: *Deutsche Musik-Phonothek. Mitteilungen. I. Juli 1965.* Berlin (West): Deutsche Musik-Phonothek 1965, pp. 24-27.

SMOLIAN, Steve:

"Standards for the review of discographic works." In: *Association for Recorded Sound Collections - journal.* vii (1975/76) No. 3, pp. 47-55.

STEVENSON, Gordon:

"Discography: scientific, analytical historical and systematic." In: *Library trends.* xxi (1972/73) No. 1, pp. 101-135.

**A standard essay on the topic.**

WEBER, J.F.:  
"Clues to composer discography." In:  
*Association for Recorded Sound  
Collections-journal*. xv (1983) No.  
2/3, pp.46-65.

WEBER, J.F.:  
"Discography: a plea for rules." In:  
*Recorded Sound*. (1975) No. 57/58,  
pp.380-382.



## Training possibilities in France for third-world audiovisual archivists

*Thierry Delcourt, Bibliothèque Nationale, Paris*

In France, many training possibilities have been set up for several years for audiovisual archivists. Of course, because of ancient political and linguistic links they are especially intended for French-speaking countries, but some archivists from other parts of the world also take part in those training periods.

Several institutions organise audiovisual training for third-world archivists, beyond which we have to mention an international one, UNESCO, the headquarters of which is in Paris. These institutions are:

- FEMIS (a European school involved in cinema and video).
- The French Cinemathèque (the famed association founded by Henri Langlois, for early film preservation).
- INA (French Radio and Television Archives).
- The National Archives, the training possibilities of which are, till today, more important for audio media than for video or film.
- IMA (Institute of Arabic World), which is not yet very active in audiovisual training.
- AFDDAS (the French Affiliated Organisation of IASA).
- And the National Phonothèque, which often receives foreign trainees.

One might say that there are too many training possibilities, and too many institutions taking part in audiovisual training, in France. But, in fact, it is important to know that these training programmes are principally individual ones. That meets the needs of the third-world archivists, because each type of institution has different aims, and the problems of national archives are not exactly the same as those of a library or a radio archive.

Moreover, all these institutions often cooperate - for instance, through AFDDAS - or get involved in UNESCO training sessions. For example, the French-speaking Audiovisual Meeting (that takes place in April in Royaumont, near Paris) will allow all these different kinds of institutions from France, Belgium, Canada, Aosta, Cameroun, Burkina-Faso, etc., to share their experiences in collecting, preserving and cataloguing audiovisual materials, and its conclusions will be used as the basis of a political resolution during the next French-speaking summit in Dakar.



## LETTER TO THE EDITOR

*George Brock-Nannestad*

A comment on the review by Dr Martin Elste of "Historische Tonträger im Deutschen Musikarchiv. Lebelkatalog" (Historic Recordings in DM - a Label Catalogue) (*Phonographic Bulletin* No. 53).

It may seem strange to present a "review" of a review, but Dr Elste in his review touches the core of archival acquisition, and this is an issue of primary concern to all and not just German archives. For that reason alone, the Reviews Editor should have departed from the dictum that a review shall be in the language of the publication reviewed (and after all, a predominantly numerical listing crosses all language barriers).

The catalogue under review is a complete (as of 1988) holdings catalogue of the DM organised by label and record number. Of a total of 70,000 records 29,000 from the pre-LP era including 10,000 duplicates have been covered in the two volumes under review (of the five foreseen). My comments do not in any way try to detract from the relevance of making available to the general public the contents of Deutsches Musikarchiv.

Dr Elste compares Vol. 2 of the holdings catalogue of DM with previously published numerical listings known to him of labels, and he regards the present issue as a great step ahead. Actually, several labels discographies of "lesser" labels have already been published.<sup>1</sup> However, he considers the catalogue to be of major importance and at completion expects it to be "... one of the most important reference works". Indeed, he considers the publication of this holdings catalogue a unique initiative - in Europe. Why this geographical delimitation? What about the AAA initiative published as the Rigler-Deutsch Index in 1983, the combined holdings (750,000!!) of 6 major US archives? In my personal view, a labels discography is to be preferred any time to a holdings catalogue - the only advantage of the latter in documentation lies in the certainty that an authorized archivist has actually been in touch with a specimen.

Dr Elste also compares the holdings of DM of only 20 years' standing with the holdings of long-established internationally known archives but does not arrive at the inevitable conclusion: they are in altogether different leagues. A major part of the discussion centers on the gaps in the collection and on the possibility of filling them, and this is where a general discussion would be welcome.

Dr Elste notes (and attempts to prove it by comparison of known catalogue number series and the DM holdings) that the gaps in the collection are curious and unexpected, and he concludes that acquisition has been governed by chance. Now, this is an issue which may entirely be explained by the conditions under which many archives work. Donations play an important role but the collections so acquired are inevitably governed by the interests of the original owner. Purchase of records is governed by a factor which is not generally recognised: the fierce competition in the market for collectable records. At present the archives have to make do with the leftovers after private collectors have had their choice. Let us first consider the acquisition policy of record collectors.

Certainly for the last 20 years dynamic record collectors have performed their acquisition by

1. buying entire collections, eg. from house clearances,
2. local flea markets and public auctions,
3. postal auctions by written list,
4. letter bids to international auction houses eg. Christie's,
5. bulk buying in junk shops during eg. holidays  
(as stated to me by junk shop owners in holiday resorts in England, Denmark, and Sweden),
6. person-to-person swapping.

These dynamic collectors dispose of their duplicate or superfluous records by issuing postal auction lists themselves to other collectors and to public archives. These dynamic collectors know full well the market value in their home country of most recordings, and the auction lists always carry a minimum bid. Whatever has not been sold before the deadline through bidding is available at the minimum bid as a fixed price. Since most archives (at least in the FRG) are not permitted to participate in auctions only the unsold items are then available for archives. Expressed differently: the market is a network of collectors with the archives on the fringe. It is no wonder that gap-filling becomes very difficult - many of the records in the number series mentioned by

Dr Elste are indeed considered collectable internationally and will not be left for archives at minimum bids.

What could be done to alleviate the situation for in particular recently founded archives? FIRST of all to obtain professional guidance from valuers, experienced collector/dealers, in order that a reasonable price may be paid for private collections - there is competition in the market! SECONDLY to obtain from donors permission to dispose of any duplicate recording to the best of the archive's total interest - including using it as exchange material (even with private collectors (1) - although the activities of private collectors are sometimes scorned, we still have to recognise that for example, discography was from the outset a collector's tool, made by collectors for collectors. Discographies were needed for ascertaining or attempting completeness (a common urge among collectors). THIRDLY to change the financial and taxation regulations for public archives and potential donors - in the USA there was for a very long time a tax incentive in connection with the transfer of a collection to a public archive.

Addressing some final words to the review by Dr Elste: he claims that the many gaps in the collection of DM prove that a large part of sound recordings from the first half of our century have disappeared from the spectrum of research of the "discologist" - surely it can only be a local German problem of accessibility! The records and the information are available elsewhere. One might say that the situation in Denmark is far worse: the entire holdings of the Danish Nationaldiskotek are about to be mothballed for lack of funding (= lack of political interest!).

#### Notes:

1. Two publications spring to mind:

Frank Andrews: *Columbia 10" Records 1904-1930* (City of London Phonograph and Gramophone Society 1985) and

Karleric Liliedahl: *Svenska Akustiska Grammofoninspelningar 1903-1928* (Arkivet för Ljud och Bild, Stockholm 1987). This 800 page book covers all Swedish issues of all the labels mentioned in the review of Vol. 2 of the holdings catalogue.

Similarly the Fagan and Moran enterprise with respect to *Victor* must not be forgotten in this context.



## IASA BUSINESS

### **Report of the IASA executive board meeting, Stockholm, 22-23 February, 1989**

**Present:** Helen Harrison (President); Ulf Scharlau (Vice President); Hans Bosma (Vice President); Magdalena Csève (Vice President); Anna Maria Foyer (Treasurer); Jean-Claude Hayoz (Secretary General).

**Apologies for absence** were received from Grace Koch.

The minutes of the Vienna Executive Board meeting were discussed and approved.

**Annual conference, Oxford.** One of the main tasks of the mid-year meeting is planning the details for the annual conference. Members should have received their conference invitation and preliminary programme details in March. As any conference delegate will realise, the programme does not give much information on the content, the greatest part of the committees not being able to give information about topics and speakers at this early stage.

The agenda for the General Assembly was decided and sent, together with the final IASA conference programme and the Future of IASA paper, to the membership in June.

As the translations of the Preliminary programme were insufficient, the board decided on cancelling the German and French texts and, hopefully, on having better translations made for the final programme.

**Closing session:** The Board decided that the committee officers must give their reports at the closing session. The National Branches and Affiliated Organisations will give their reports at the second General Assembly.

Exhibition: George Boston is the coordinator of the exhibition on technical equipment.

**Financial report.** The Treasurer, Anna Maria Foyer, presented the accounts, dated 31.12.1988, as follows:

Balance at 31.7.1988	SEK 124'778.27
Receipts 1.8.1988 - 31.12.1988	SEK 20'676.33
Expenditures 1.8.1988 - 31.12.1988	SEK -68'558.15
Balance at 31.12.1988	SEK 76'896.45

**Membership.** At present IASA has 203 institutional members, 118 individual members, and 31 subscribers, 60 Australian members withdrew their membership, 50 countries are represented in IASA, the three new ones are: Iceland, Namibia, and Pakistan.

**Recruitment.** The Board decided to ask different professional journals for a free advertisement containing information on IASA.

**Committees.** Much of the committee business was discussed in Vienna with the officers present.

National and Affiliated Organisations Committee: Piet van Wyk is the new chairman of the Netherland Branch.

The President reported about the joint ARSC/IASA conference in Canada in May 1990. IASA received an invitation from the Canadian Museum of Civilization to hold the conference in the newly-built museum. The Joint Technical Symposium will take place during three days, May 2-4 1990, followed by a IASA/ARSC conference, which could be a four to six days event. Some of the sessions will be concurrent sessions, and some joint sessions with ARSC.

The ARSC conference 1989 was held in Kansas City on June 1-3. The President was the representative of IASA.

**IASA Policy.** The President Helen Harrison presented a paper on the future of IASA, which is an amalgam of the papers which were given at the Vienna Conference. That paper was sent to the membership, together with the agenda for the General Assembly. Another session on the future of IASA is scheduled for the Oxford conference.

The Board decided to create two working parties to prepare a new policy for IASA:

a) For Internal Organisation. Hans Bosma will be responsible for that party, Magdalena Csève will be a member.

b) For External Relations. Helen Harrison will be responsible. The board call for members for the two parties. The two groups will have their first meetings in Oxford.

**Relations with other organisations.** Being an affiliated organisation of Unesco, IASA maintains close contact with several international organisations and audiovisual associations.

There seems to be some confusion within IAML about where IASA is going. At the Executive Board meeting, we had a very informal discussion with Veslemöy Heintz, Secretary General of IAML, about the future conference plans. It was also decided to have a meeting of some IASA and IAML Board members after the Oxford Conference.

The Round Table of Audiovisual Organisations took place on March 14-17 1989 in Brussels.

The Training Round Table on Curriculum Development met in Berlin in mid-October 1988 and in May 1989.

**Publications.** The Board discussed the report sent by the Editor and congratulated Grace Koch and Mary McMullen on the excellent work, especially on the *Bulletin* No 52, and Magdalena Csève on having produced the index of the *Bulletin*.

The last item of the agenda concerned future conferences. The conference in 1990 will be held in Ottawa during the first weeks of May 1990 in co-operation with ARSC. Further conference venues are still in some doubt.

Jean-Claude Hayoz, Secretary General

<b>REPORT OF THE ROUND TABLE ON AUDIOVISUAL RECORDS, BRUSSELS 15-16 MARCH 1989</b>
--

The ninth Round Table meeting on Audiovisual Records was held in the Maison des Associations Internationales, Brussels. This year it was hosted by FIAF and IASA was represented by the President and George Boston of the C-C Technical Committee. The Round Table was well attended by 14 people at one stage, representing IASA, FIAF (International Federation of Film Archives), FIAT (International Federation of Television Archives), ICA (International Congress of Archives) and ICA/CAV (Committee of Audiovisual Archives), IFLA (International Federation of Film Libraries) and the IFLA AV Round Table, and Unesco. The

chairman this year was Wolfgang Klaue of FIAF and the Rapporteur, Helen Harrison of IASA.

The meeting began by considering a recent proposal for the presidents of the NGOs participating in the Round Table to meet the Director General, or other official of Unesco, in order to present their concern for the subprogramme for the Development of Audiovisual Archives and explore ways of implementing this Unesco programme more effectively. The letter proposed that the meeting should discuss how the NGO Round Table might best focus its efforts and resources to support the Unesco programme, and how Unesco might use to best advantage resources from the Round Table associations. It was signed by the five associations involved and sent to the Assistant Director General of the Communication Division in Unesco.

The Round Table also considered its present and future relations with Unesco, and the growing concern that the proposed link between Communication, mass media and av archives, may not be appropriate and result in av archives being swamped, or ignored in the Unesco programme. Other ways in which the Round Table intends to bring itself to the attention of Unesco and the outside world include the preparation and distribution of a leaflet or brochure, signed by all the NGOs, and aimed to shock the public into a realisation of what is being lost, and to raise the level of awareness. It was noted that the products the Round Table which member associations deal with are extremely expensive to produce, and the waste of resources if these products are allowed to be destroyed and lost cannot be disregarded. The Round Table has to convince the public that it is necessary to preserve this huge economic investment by spending money on preservation and storage, otherwise we are wasting the original investment.

Some other publications have been under discussion by the Round Table including possibilities for a joint periodical, and the need for more brief, practical guidelines on storage, handling and cataloguing of audiovisual materials would also be useful. It was also suggested that an amalgamated glossary of terms might be considered, all ideas which represents a further step forward in cooperation between the NGOs.

### **Legal and copyright concerns**

The Round Table devoted some time to this question for although our job is not to formulate laws or even model laws, we are in the best position to indicate the problems which face av archives in

particular and to provide guidelines which can be used by members of our respective Associations.

A paper on Legal problems relating to audiovisual archives prepared by a research student in Unesco was introduced to the members. The report lists existing International instruments, and looks at what is omitted. The eventual aim is perhaps a Model Law to be formulated within Unesco with advice from the NGOs, but this will take considerable time and there are many steps in between in which the Round Table could be involved. The report is in draft form and NGOs were invited to send comments for a final report to be prepared for presentation to Unesco. A Working Party will be formed to continue discussion, and it is hoped that there will be a consultation with Unesco in January or February 1990 at which each NGO would be represented. The report has a restricted circulation at present, but a copy has been made available to the Copyright Committee of IASA for consideration.

The Copyright Guidelines for Audiovisual Archives are presented elsewhere in this issue. The Round Table agreed that the document has two purposes, as guidelines for developing archives and others and also for presentation to legislators for consideration, and to persuade them of the needs of av archives.

### **Technical Co-Ordinating Committee**

The C-C was set up by the Round Table and the Chairman is now invited to report at the annual meetings. George Boston reported on the development and work of the Committee, including the second Consultation of Users and Manufacturers and the next Joint Technical Symposium in Ottawa, May 1990. However setting up the C-C or any other committee has to be followed by suitable financial arrangements. At present these are rather ad-hoc with members of the Round Table, including Unesco having to be asked for monies to keep the Committee operational. The Round Table policy at present is to share extra costs among the member associations of the C-C.

A Basic Manual on Handling Audiovisual Materials, is one of the projects which the Round Table has looked at over a number of years. Now that the Working Party on Curriculum Development is looking for training materials there is even more pressure to produce such a manual. Such a manual would be of use to the non-archive world as well and it was decided to aim for a basic manual for archivists with a series of pamphlets at a more basic level for libraries.

The next meeting of the Round Table will be hosted by IASA in Milton Keynes, England 15-16 March 1990.

### **IASA EXECUTIVE BOARD ELECTIONS**

The three yearly elections of a new Executive Board of IASA are due to be held in 1990. All full individual members and designated representatives of any full institutional member of the Association may participate in these elections. The procedure is as follows.

1. Full members may propose or second candidates or be nominated for any of the positions on the Executive Board: namely, President, three Vice-Presidents, Editor, Secretary General and Treasurer.
2. All nominations must be signed by the proposer, seconder and the nominee and sent to a member of the Nominating Committee, whose names and addresses are given below.
3. All nominees should note that the efficient conduct of Association business relies on Executive Board members being able to attend IASA's annual conference and one inter-conference Board meeting each year.
4. In accordance with the By-Laws to Article VI of IASA's Constitution, all nominations must be submitted not later than eight months before the date of the election. The closing date for nominations is, therefore, the 7 September 1989 and submissions after that date cannot be accepted.
5. Nominations may be sent to any of the following members of the Nominating Committee:

Jean-François Cosandier  
Radio Suisse Romande,  
Lausanne, Switzerland

Ernest J. Dick  
Public Archives of Canada  
Ottawa, Canada

Dietrich Schüller  
Phonogrammarchiv,

## TRAINING AND IASA

### **Working Party on Curriculum Development for the Training of Personnel in Moving Image and Recorded Sound Archives. Progress report.**

In 1987 immediately after the Joint Technical Symposium a Round Table on Curriculum Development was sponsored by Unesco. A report of this Round Table was published in the *Phonographic Bulletin* No. 50, March 1988. The recommendations and conclusions of this Round Table were presented to Unesco in late 1987.

The conclusions indicated a lack of any formal education and training programmes for audiovisual archive personnel and demonstrated the urgency of continuing work on this project. A small working party was formed consisting of one representative from each of the associations involved: IASA, FIAF, FIAT, ICA and CILECT. IASA is represented by the President. This Working Party submitted a project to Unesco and received a contract to prepare a programme for the education of audiovisual archivists, seeking to harmonise all major endeavours in this field and to integrate related aspects of training for the specific media involved. The programme includes:

- (a) Definitions of key archive staff positions and the expected standards of qualification.
- (b) Compilation of all existing institutions which already train audiovisual archivists or have the potential to do so, together with a description of their programmes.
- (c) Harmonisation of the proposals for the education of audiovisual archivists (general, film, television, sound and related disciplines).
- (d) Recommendations on specific methods for launching this education programme with suggestions for co-financing schemes and international cooperation.

- (e) The Working Party intends, while carrying out the contract, to provide a listing of necessary topics to be covered in curricula for education programmes.
- (f) The Working Party also intends to provide a bibliography of basic handbooks for training purposes.

The report for Unesco is now at the drafting stage and there will be a further meeting in September 1989 to put the finishing touches. After that it will be submitted to Unesco with recommendations for implementation. Apart from the main report there will be several annexes including a select bibliography of audiovisual archiving, the initial results of a survey of existing training institutions in related disciplines, existing in-house programmes, seminars, summer schools and other intermittent training events.

Members of the Working Party are seeking any information about existing training courses and curricula from their associations. If any IASA members know of such courses, or have knowledge of any in-house training programmes, or relevant summer schools, symposia and seminars I would be very grateful for the information and better still sample curricula from such programmes. Please send any material which you feel may be of use to me at the address below and thank you in advance for any assistance which you may be able to give to the Working Party.

Helen P. Harrison

<b>GUIDELINES FOR ARCHIVES AND LIBRARIES INCLUDING MOVING IMAGES AND SOUND RECORDINGS CONCERNING ACCESS TO AND REPRODUCTION OF THEIR RECORDINGS</b>
---

Those guidelines were originally formulated by the Copyright Committee of IASA and presented to the International Round Table on Audiovisual Records for use as a basis for a common policy document. The document has passed through a few amendments since that time and was last discussed, amended and agreed at the meeting of the International Round Table on Audiovisual Records in Brussels, Belgium on March 16, 1989. The document is now presented for circulation and consideration by members of the Non-government organisations involved.

The Round Table realise that their job is not to formulate laws or even model laws, but to encourage discussion by indicating the

problems which face av archives in particular and to provide guidelines which can be used by members of their respective Associations.

The following document has been accepted by the NGOs and is being circulated to the membership of the NGOs involved in the Round Table for information.

The document has two purposes, guidelines for developing archives and others and also for presentation to legislators for consideration, and to persuade them of the needs of av archives.

NGOs represented include IASA, IFLA, ICA/CAV, FIAF, FIAT and representatives from UNESCO.

### **G u i d e l i n e s**

These guidelines are for the benefit and protection of archives and libraries, and any of their staff acting within the scope of their employment, in regard to rights of copyright in the reproduction and distribution of sound and video recordings.

Throughout the guidelines "recording" is defined as follows:

The process whereby sound and image signals are embodied on a recording medium with the aim of preserving them for subsequent reproduction, and by extension the artefact so created.

### **General principles**

1. Guidelines shall be suitable for use in future revisions of national copyright laws of any country or group of countries or of international conventions. They are to be taken as guidelines only at this stage and it is essential that archives and libraries abide by existing national and international legislation in force.

2. Guidelines shall follow the principle of responsible research use known as fair dealing or fair use. Guidelines shall include clauses to permit the copying of documents for preservation purposes.

3. Guidelines shall provide a balance between the rights of creators and the responsibilities of archivists, library users, librarians and for reproduction and preservation of published and unpublished materials in their collections.

4. Guidelines shall provide a means for assuring the proper exchange, distribution, and transmission of materials in their collections.

5. Guidelines shall safeguard the acquisition, preservation and use of moving images and sound recordings and other forms of images and information which are stored by known or future methods.

#### **Access and reproduction by archives and libraries**

1. Existing national and international legislation must be observed in all instances.

This implies that:

When a user is supplied with a reproduction of one part of a collection or an entire recording, from the archive or library for private study, scholarship, or research.

a) The rights in the recording are not in any way affected.

b) The archive or library may not authorise any reproduction of a recording to be made for any purpose other than private study, scholarship, or research provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the rights owners.

2. a) No access, reproduction or distribution of any recording shall be made with any intention or result of direct or indirect commercial advantage to the archive or library, its users, or third parties without the consent of the rights owners.

b) Where legislation requires it, written permission should be obtained from the rights owners by the person or persons requesting reproduction.

3. a) The collections may be open to the public or made available to researchers affiliated with the library or institution and to others doing research in a specialized field.

b) The archive or library may display any of its material unless there is a contractual arrangement to the contrary.

4. A notice of copyright ownership must accompany the reproduction and distribution of recordings.

5. A recording may be duplicated for purposes of preservation, security or for the purpose of replacement of one that is damaged, deteriorating, lost, or stolen if it is determined that an unused replacement cannot reasonably be obtained.

6. a) Archives and libraries should control the making of reproductions of items within their collections.

b) The user who obtains a copy by using the archive or library's reproduction equipment or who requests a recording or copy, will be held responsible for any infringement or for any use which exceeds fair use.

c) The archive is entitled to request users to make a reasonable contribution to the cost of services provided.

7. Reproduction or exhibition of recordings or copies for certain quotation purposes may not necessarily be understood as an infringement of rights. The factors to be considered in a particular case are the purpose and character of the use, the nature of the recording, the amount and substantiality of the portion used, the effect on the potential market or the value of the recording.

8. When the foregoing precautions are followed the staff should not be liable to legal action resulting from "misuse" of copyright material.

#### **Members of the Round Table of Audiovisual Records.**



## NEWS AND NOTES

### Technical co-ordinating committee

*George Boston, Chairman of the Co-ordinating Committee,  
BBC Open University Production Centre, Milton Keynes*

The Co-ordinating Committee for the Technical Commissions of the International Organisations for Audio, Film and Television Archives, to give the C-C its full title, is made up of representatives from the technical bodies of FIAF, FIAT, IASA and ICA. Two people from each organisation serve on the C-C - Dietrich Schüller and Bill Storm represent IASA - and a Chairman and Rapporteur are appointed in addition. At present Eva Orbanz, the Secretary-General of FIAF and a Personal member of IASA, is the Rapporteur and I am the Chairman.

The members of the C-C are currently finalising the texts for a *Guide to the Basic Technical Equipment for Audiovisual Archives*. This will offer advice about the required technical specification of equipment for use in an audiovisual archive. The Guide is aimed at new archives and those moving into new media. Also to be published shortly is the first edition of a *Directory of Technical Staff in Audiovisual Archives*. This has been produced at the request of the manufacturers present at the first Consultation in Berlin. It is, however, proving to be of more general interest as it is, at present, the only cross-medial listing of archives.

The C-C has recently held a second Consultation of Users and Manufacturers of Technical Equipment for Audio, Film and Television Archives. This was organised in Vienna by Dietrich Schüller and hosted by the Österreichischen Akademie der Wissenschaften Phonogrammarchiv which this year celebrates the ninetieth anniversary of its foundation. The meeting was attended by representatives of some seventeen companies manufacturing a range of machines and stock used by archives. The main topic of discussion concerned the carriers of recordings and the growing evidence of chemical aging processes, even in materials such as polyester tape previously thought to be highly stable. A number of recommendations have been drafted and will be published

shortly. One important point of agreement to come out of the meeting is that copying of sound and video recordings to preserve the information content will become an essential part of an archives activities. No carrier will last for ever. The information, however, can last indefinitely. The copying will, after the first transfer from analogue, be digital to digital and can be highly automated. The necessity for highly experienced technicians to monitor the quality of the copies will be greatly reduced as electronic comparators will check the digital information. The copying of the existing analogue recordings to a digital format will, however, be slow and costly. In addition, there is a problem in specifying a suitable digital format for sound recordings. All of the current contenders have problems and none can yet be recommended. The IASA Technical Committee's Open Session at the Annual Conference at Oxford will include a debate on the topic of which format should be used for the long term storage of sound.

The C-C was asked by the UNESCO Round Table of NGOs for Audiovisual Archives to undertake the organisation of the next Joint Technical Symposium. This will be held in Ottawa as part of a major series of audio-visual archive events. The International Council of Archives is arranging a Conference about the management of audiovisual materials to be held at the National Archives of Canada from 30 April to 2 May 1990. The Joint Technical Symposium will be held at the Canadian Museum of Civilisation from 3 May to 5 May and the IASA Annual Conference, held in conjunction with the Association of Recorded Sound Collections (IASA's North American affiliate), from 7 May to 10 May will complete the calendar of events. Although the equipment necessary to replay the material will not be overlooked, the JTS will concentrate on the problems of stocks and carriers. Speakers for the JTS are currently being sought and elsewhere in this issue of the *Phonographic Bulletin* you will find a call for papers. May I ask you to draw this to the attention of your technical colleagues and encourage them to offer to share their knowledge and experience with a wider audience.

# ARCHIVING THE AUDIOVISUAL HERITAGE

JOINT TECHNICAL SYMPOSIUM

**3-5 May 1990 at the Canadian Museum of Civilization,  
Ottawa**

Organised by the Technical Committees of the  
*Fédération Internationale des Archives du Film*  
*Fédération Internationale des Archives de Télévision*  
*International Association of Sound Archives*  
*International Council of Archives*

\*\*\*\*\*

An international technical conference is being arranged as part of a major series of meetings of individuals and organisations involved with the preservation and storage of film, sound and television materials to be held in Ottawa in the Spring of 1990. The main topics to be covered are listed overleaf and papers are requested from people researching and working in the fields covered. The Papers Committee will, however, consider papers of other subjects if they are relevant and of interest to technicians working in audio-visual archives.

Offers of papers for presentation to the Symposium, to include a short summary of the material, should be sent to the Chairman of the Co-ordinating Committee by 1 December 1989. Because of the range of technologies to be covered, speakers are requested to make the presentation to Conference at a level suitable for an informed but not necessarily expert audience. The written version of the paper, which will be published in the Symposium Proceedings together with the discussion following the presentation, should be authoritative and contain references etc. The Proceedings are seen as a future reference work for archival technicians and others working in the field.

# ARCHIVING THE AUDIOVISUAL HERITAGE

## Proposed Topics for Papers

1. The Chemical Breakdown of the Components of Signal Carriers with Age.
  - a. Acetate Bases
  - b. Polyester Bases
  - c. Metal Particle Coatings
  - d. Colour Film Dyes
  - e. Other Materials
2. New Carriers
  - a. Optical Disc Systems: Are they the Archive Media for the Future?
  - b. R-DAT: Is this suitable for Archiving Sound?
  - c. Digital Paper
  - d. Other Carriers
3. Is a Multi-Media Format/System for A-V Archives a Possibility?
4. The Practice of Restoration
  - a. Film: A Comparison of Chemical and Electronic Methods
  - b. Sound: Restoration in the Digital Domain
  - c. Video: Analogue and Digital Methods of Restoration
5. Debate: Do Standards Organisations Lead to Standards?

One of the major problems facing archivists is the proliferation of standards. Do the Standards organisations help or hinder those interested in the long term preservation of audiovisual records.

## **SYMPOSIUM OF THE NEW MEDIA**

### **Documents that Move and Speak: Managing Moving Images and Recorded Sound Documents in Archives**

*Ottawa, Canada  
30 April - 3 May, 1990*

#### WHAT?

The Symposium on the New Media Provides a unique international opportunity to address the challenges and the opportunities associated with the selection, conservation, and organisation for public access of moving image (film and television) and recorded sound (oral history and radio broadcasting) documents. The Symposium will bring together archivists who have many years of experience in the management of such records with those who are just beginning to add moving images and recorded sound documents to their collection and those who have recognised the value of such records but have not yet initiated a program of selection and conservation. The primary assumption of the Symposium is that it is impossible to ignore the impact and the significance of moving images and recorded sound as a means of communication between the governors and the governed, and between governments in the last decade of the twentieth century.

#### WHO?

The host of the Symposium, the National Archives of Canada, has been acquiring and conserving recorded sound documents since 1967, and established what is now called the Moving Image and Sound Archives Division (MISA) in 1972. The National Archives is a member organisation of the International Council on Archives, and has been represented on the Council's Committee on Audiovisual Archives since its establishment as a Working Group in 1982.

The Symposium is designed to interest all archivists presently administering programs in the selection and conservation of moving image and recorded sound documents and all those planning to do so. This includes member organisations of the International Federation of Film Archives, FIAF (the Symposium is scheduled the week following the Federation's annual Congress in Havana, 19-24 April, 1990) and the International Federation of Sound Archives (IASA) whose annual Congress in conjunction with

the Association for Recorded Sound Collections (ARSC) will be held in Ottawa, 7-10 May, 1990. All proceedings of the Symposium will be simultaneously translated into English, French and Spanish, and the proceedings will be published.

#### WHERE?

The Symposium will take place in the Auditorium of the National Archives of Canada, 395 Wellington Street, Ottawa, Canada. The IASA/ARSC Congress will take place in the auditorium of the new Canadian Museum of Civilisation in Parc Laurier, Hull, Quebec.

#### WHY?

The Symposium will review the fundamental principles governing the management of moving image and recorded sound archives, as well as the newest developments in the technology of moving image and sound recording and reproduction. It will enable both experienced and novice archivists to explore the issues and to confront the problems associated with the introduction of the new media into existing archival collections, or the establishment of specialised archives. In association with the meetings to be organised by the federations which co-ordinate the worldwide effort to conserve such records, the Symposium represents an excellent opportunity to discuss with colleagues and specialists (from archives and the film and broadcasting industries) the principles, policies, and procedures that should govern moving image and sound archives collections.

#### FURTHER INFORMATION

The registration fee will be \$300.00 (Cdn). A preliminary program and registration form will be available during the summer of 1989. These can be obtained through request from the Symposium on the New Media, International Council on Archives, PO Box 3162, Station "O", Ottawa, Ontario, Canada, K1P 6H7.



## REVIEWS AND RECENT PUBLICATIONS

### Reviews

*Archiving the audio-visual heritage. A joint technical symposium. FIAF - Fédération Internationale des Archives du Film, FIAT - Fédération Internationale des Archives de Télévision, IASA - International Association of Sound Archives. 20-22 May, 1987 in the International Congress Center, Berlin (West) organized by Stiftung Deutsche Kinemathek. Berlin (West): Stiftung Deutsche Kinemathek, 1988, 169 pp., Illus., 30 x 23 cm, without ISBN: DEM 75.00 (pbk.).*

This is a very important publication, in particular, for audio people. The general impression of the Joint Technical Symposium (called "Archiving the Audiovisual Heritage") itself is that the film people are much better off with regard to problems of archiving and reproduction, although the number of predominantly audio archives is much larger. But films have been able to attract much higher funding for much longer time. Many of the contributions from the film side in the present volume are really progress reports on on-going projects. The audio side is fortunate to be now associated with such knowledgeable and well-organised professionals. Very few of the contributions would seem to become unimportant in the long run. The lay-out takes some getting used to but is quite efficient in recalling the spirit of the actual Symposium. It uses roman type for the papers read (some have been revised later) and single columns of italics for any remarks by Chair or audience.

The problems of archiving in this field may briefly be summarised as *acquisition, registration, storage of the object, storage of the signal, restoration of the object, reconstruction of the signal, advertising the availability*. Although this break-down of the tasks was not consciously adopted by the symposium, most of the elements are there.

To give an impression of the range covered, the papers will be briefly structured in the following, referring to them by author-page-no. Some papers refer to environmental control: buildings

(Brandes-11), air-conditioning (Harkness-37), microclimate by means of sealed, dried-out bags holding films in cold storage (Spehr-15; Nair-21). Some are concerned with, in particular, contamination by micro-organisms (Socrates de Oliveira-23; Opela-25); a test for residual chemicals in films (Brandes-29); catastrophic failure by fire (Fontaine-43) and decay of, in particular, cylinders (Gibson-47). Some papers mention the problems of obsolete formats, in particular in video (Jenkinson-77; Frambourt-89; Fernandex-95). Some papers regard the storage quality of strip media (Welz-61; Wheeler-71; Brems-31).

The actual work involved in copying films to another carrier is treated (Brown-99; Karnstädt + Brown + Schou-117; Karnstädt-125; Konlechner-127; Karnstädt-131). Soundtrack re-recording as such was treated (Karnstädt-125; Konlechner-127; Schou-130).

Some papers are theoretical in outlook regarding storage and data formats (Deutsch-55; Schüller-85; Emmett-103) and standards for copying (Storm-105).

Noise reduction in the digital domain is treated from two viewpoints (Rayner+Vaseighi+Stickells-109; Deutsch+Noll-113), and replay of cylinders by means of modern constructions (Lechleitner-79; Stickells-81).

A checklist before restoration of a film was presented by Schmitt-133; the problem is catching up with the self-destruction that in particular nitrate film stock suffers.

Among contributions from the audio side which to the present reviewer seem to be of the greatest importance for IASA members is Gibson-47; "Decay and Degradation of Disk and Cylinder Recordings in Storage", covering fungi, delaminations, etc. Fig. 6a should disqualify the person handling the cylinder illustrated: a full thumb touches the playing surface. In the ensuing discussion on the flammability of celluloid cylinders, Henning Schou (FIAP) expressed concern that slow decomposition caused by storage at elevated temperatures might create spontaneous ignition. This viewpoint was not shared by the Library of Congress (nor by the present reviewer; the plaster of Paris core would dissipate the slowly developed heat).

Wheeler-71, "Archiving the Various Audio and Video Tape Formats" is an overview of magnetic media and their suitability for the various formats, from a long-term storage view-point.

Storm-105, "The Implementation of Proposed Standards for Copying Audio Recordings" discusses the desirability of having standards, the questions to be asked (and at least partly to be answered by measurement) before re-recording, and various philosophies concerning implementation. It does not propose wordings for standards as such (but that has been treated in discussion between Bill Storm and myself for some time).

Lastly, introducing a tool that may help researchers as well as fooling the general public, Rayner+Vaseghi+Stickells-109, "Digital Signal Processing Methods for the Removal of Scratches and Surface Noise from Gramophone Recordings" describes a modelling of the actual signal from a scratch - a template - which is then used in calculating a way to eliminate similar scratch sound from any one recording. The method is (in 1987) still under development.

One final word in favour of a highly untraditional solution to the archiving of television signals: Emmett-103, "Photographic Recording of Component Television Signals - The 'Cinemascope' System". In this system full colour information in component form is filmed onto black and white film stock, and the signal is reconstructed during scanning in a telecine machine at play-back. The advantage is that the long term storage ability of polyester base film stock is proven to be far better than the expected life of magnetic tape. Possibly telecine machines will be available longer than video equipment for obsolete formats. But will film stock?

A panel discussion was devoted to "Ethics of Restoration", but it was not nearly enough for this highly important topic (a fact which was also borne out by some extra-curricular activities during the symposium). The reason that the topic is of the utmost importance is that technicians with their superior knowledge of signal processing can do anything to any signal, and thereby - unwittingly, maybe - enhance or mutilate the originator's creation beyond recognition. One of the goals of "ethics" in this connection is to make users of early material aware of the conditions under which it was created and the effect it was supposed to *create at the time*.

Briefly the contributions from this panel may be summarised as follows: Gregor-139 identified three factors: increased knowledge, progressive technology, and commercial pressure. Storm-139 contrasted serious, scientific restoration work with commercial "colorizing". Borde-141 discussed restoration *versus* modernisation of, in particular, silent films, and at length went into

considerations concerning *tinted prints, speed, intertitles, and length*. He advocated that editing/restoration be carried out on duplicates only. Pinel-144 discussed the problem of fragmentary source material, again with emphasis on silent films. Labenski-146 described the importance and satisfaction of going back into the performance styles by means of interviews of nearly forgotten interpreters, in order to re-create for television a series of silent films. Degeller-148 gave a short and terse distinction between commercial re-issues and archival ethics - and stressed the primary need for *preservation facilities*. Poncin-148 introduced problem of screening films with a large aspect ratio on television - the result being a conflict between "*panning -and-scanning*" and "*letterbox format*" - whichever way, the audience is cheated. Kubelka-149 noted with horror as a film-maker in his own right that the colour balance on some films only 15 years old has become very different from what was intended. A viewpoint not covered by the panel is presented in a separate note in the present issue of the *Phonographic Bulletin*.

There are a number of misprints and linguistic errors, most of which are caused by too little knowledge of technical English by the translator who listened to the taped comments. Some are highly amusing - the "cracked tension" (relating to a magnetic tape) instantly lets your inner ear recall the American voice of Jim Wheeler saying "correct tension". The Editor is in possession of an Errata Sheet.

The book ends with presentations of some of the pitifully few exhibitors, short descriptions of the organising bodies, curriculum vitae of the chairmen, and some lyric prose by the Editor.

As a final comment to technically minded persons I would like to mention the deep symbolism in the illustration on the cover which was also the logo for the Symposium. It shows a piece of black film and a piece of a frame of Marlene Dietrich which in itself illustrates *sampling* (the screen used for printing), a *dynamic range* which is too small (the blotchy black and white areas showing *no signal* and *overload* respectively), *low noise* (solid, not grainy black) as well as *low pass filtering* (the lack of detail). There is *no sound*, so it must be termed an altogether unsatisfactory representation of our audio-visual heritage (in this case *Der blaue Engel*, Josef von Sternberg, 1930).

George Brock-Nannestad

**Andrews, Frank:** *The Edison phonograph. The British connection.* Rugby: The City of London Phonograph and Gramophone Society, 1986. xx, 140 pp., illus., 22 x 14 cm, ISBN 0-900883-51-0: no price given (pbk.), ISBN 0-900883-52-9: £ 12.50 (hardcover).

Available from CLPGS Bookshelf, 134 Railway Terrace, Rugby, Warwickshire CV21 3HN, Great Britain.

The Edison business has been, for a long time, something of a cultic occupation for many discophiles (though one should appropriately speak of phonographophiles). Quite a number of books and articles have been published dealing with the talking machines and the mass-produced cylinders of Thomas Alva Edison by authors such as Raymond R. Wile, George L. Frow, Ronald Dethlefsen, and Allen Koenigsberg, though besides the invention of the phonograph, Edison did not play any consequential role in the development of the music industry and the hi-fi industry. For all these authors, the initial invention must have been the stimulus for their research. Frank Andrews is already well-known as a writer and discographer. He has researched, with considerable industry, his book about virtually all British aspects of the Edison phonograph business. Not all of his writing deals with material that is worth digging up, and, in fact, Andrew's book is more like a source book than a historical survey. Nevertheless, it is of great value to the historian of the phonograph for many pieces of information that are otherwise unavailable. Among a variety of appendices I find particularly useful a table of issue dates. There are ample illustrations throughout the book though mostly of inferior quality.

Martin Elste

**Johnston, Brian Fawcett:** *Count John McCormack. Discography. Compiled from original archive sources.* Bournemouth: Talking Machine Review, (c) 1988. 57 pp., 30 x 21 cm, ISBN 0-902338-25-0: £ 5.00 (stapled)

Available from Talking Machine Review, 19 Glendale Road, Bournemouth BH6 4JA, Great Britain.

Given the fame and eminence of John McCormack it is not surprising that his huge legacy of recordings has attracted the attentions of a number of discographers. In the Gray and Gibson *Bibliography of discographies* only Toscanini and Caruso among performing artists can boast more entries than McCormack. Now

with the appearance of the present compilation no more should be needed in the foreseeable future.

Mr Johnston, who has himself published more than 600 McCormack recordings on a series of cassettes, lists more than 1300 items from 211 "sessions", the latter term being used to include broadcasts and live recordings which, together with unpublished takes, go to swell the total beyond what has previously been documented.

The discography proper follows a brief listing of the important dates in the singer's career and is arranged in chronological order, titles being given in a scholarly form, frequently going as far as quoting dates for the authors of texts. The next point of reference is the matrix number together with all 78 rpm catalogue numbers traced, while divergencies from the norm of 78 rpm are noted.

In addition, LP reissues (a substantial number in McCormack's case) are quoted and this has involved the identification of those recordings which on some early LPs were not always fully documented.

The work, however, lacks the index of titles which is highly desirable for so large an output and for which I would have been glad to sacrifice the listing of recordings by make and number which comes after the discography.

For this reason I shall find it necessary to keep on hand the alphabetically arranged 1956 discography by McDermott Roe despite its comparative incompleteness. Nevertheless Mr Johnston's work is essential for John McCormack collectors and for archivists and others cataloguing his recordings.

Eric Hughes

**Schorn, Franz:** *Alte Schallplatten-Marken in Deutschland*. Wilhelmshaven: Florian Noetzel Verlag "Heinrichshofen-Bücher", (c) 1988. 124 S., Abb., 19 x 19 cm, ISBN 3-7959-0551-6: DM (geb.).

As legal advisor for the EMI Electrola company at Cologne the author, Dr Schorn, is well qualified to discuss the corporate history of German record labels. He does so on only 122 pages of a small size (18,5 x 18,5 cm) book - and almost half of the space is devoted to facsimile reproductions of contemporary

advertisements as they originally appeared in the trade paper, *Phonographische Zeitschrift*. The title of the book, translated into English, would be: *Old Disc Record Trade Marks in Germany*.

Given the enormous number of independent record producers and record labels in Imperial Germany, and considering the tremendous importance of the German trade in phonographic goods before and after World War I, it would be unreasonable to expect Schorn's book to be a complete, comprehensive and in-depth analysis of the subject matter. In 1914 the German Association of Talking Machine Dealers stated that some 358 different record labels were on the market at that point in time. Elsewhere I have tried to systematically list all German makes and makers of disc records prior to World War I (Lotz, *German Ragtime and Prehistory of Jazz Volume I: The Sound Documents*, Chigwell: Storyville, 1985) and only managed to scratch the tip of the iceberg. Add to this the vast amount of record labels manufactured in Germany since 1919 up to the end of the shellac era and it will be evident that to cover "old German disc record trade marks" would be a monumental task.

However, the author is careful to explain not only on the dust jacket but also in his foreword and introductory remarks that this is not the intention of his book. He cautiously narrows the scope of his book down to

- a documentation and historical description of only those record trade marks which were registered **before** 1945 and which are **still** valid to-day;
- an analysis of the **corporate history only** and not, say, of repertory, market strategies, or socio-cultural impact;
- an attempt at completeness in historical history but **not** of **iconography**.

In other words, although the book is profusely illustrated there is no effort to reproduce all the labels and label variations in a systematic manner. Furthermore the investigations do not cover developments after 1945 in what is now the German Democratic Republic.

The author is honest and precise in his definitions and cannot be accused of raising false expectations other than through the title of his book. Rather, he succeeds admirably in what he set out to do.

The first four major chapters of the book are devoted to the history of the four major companies still in existence to-day in West Germany: EMI Electrola, formerly the Carl Lindström Gesellschaft (5 pages); Deutsche Grammophon Gesellschaft (5 pages); Electrola Gesellschaft mbH (3 pages); Telefunken/TELDEC Record Service GmbH (3 pages). The chapters contain a condensed but precise and well-written corporate history.

This is followed by a further 31 chapters, each dealing with an individual record label. In alphabetical order they are: Artiphon, Beka, Brunswick, Columbia, Dacapo, Decca, Electrola, "schreibender Engel" (writing angel), Gloria, "Grammo", Grammophon, Gramola, Heliodor, "Hund" (Die Stimme seines Herrn/His Master's Voice), Imperial, Kristall, Lindström, Neophon, Odeon, Pagoda, Parlophon, Pathé, Polydor, Polyphon, RCA, Scala, Telefunken, Ultraphon, Victor, Zonophon. The length of the entries ranges from a mere 8 lines (Neophon) to 6 pages of 31 lines each (Die Stimme seines Herrn).

As could be expected, all of these entries are fascinating reading and are likely to contain new information even for the seasoned gramophile. I was much surprised to see the very short lived German Neophone listed among the record labels which are still copyrighted to-day, and indeed Schorn does not indicate who is the present owner of the trade mark which was originally registered for a certain Dr Michaelis at the Black Forest town of Villingen in 1904.

Another "exotic" trademark which for some strange reason is still registered to-day is Pagoda. As far as this reviewer is aware, Pagoda records were only manufactured from 1930 to 1933 by Deutsche Grammophon for the Chinese export market. According to Schorn the original Austrian trade mark was registered for Germany during the War, in 1941, and has since been transferred to Polydor International, in 1972.

Notable for its absence is, on the other hand, the Vox trademark. Vox was certainly one of the major German labels during the 1920s until the company went bankrupt in 1929. Kristall acquired the stock of masters and pressing stampers but discontinued the label. Vox was briefly revived, as Televox but using the original logo, during the war years. Could it really be that this prestigious name is not protected any more?

Another interesting case is Pathé. The famous rooster trademark was registered in Germany as early as 1904, while the trade

names Pathé and Pathé Frères were registered after World War I, in 1921. Schorn relates that, when the Columbia company of London acquired the majority of the French Pathé company in 1927, it consequently decided **not** to continue Pathé as a national (German) trade mark. However, Pathé records **were** pressed at Nuremberg for a while and I wonder whether, indeed, this was done without registering the trademark.

The major sources of Schorn's information appear to be the entries in the Federal German patent office at Munich, the company archives, and back issues of the *Phonographische Zeitschrift*, whereas the international literature on the subject was not scanned systematically. Much new information is being presented that would not have been easily accessible to the general public.

However, the definitive book on the subject has still to be written. *Alte Schallplattenmarken in Deutschland* is nevertheless a valuable addition to the shelf of serious researchers. Since it is also beautifully produced it is also a most suitable gift for anyone with an interest in the talking machine industry, and disc records.

Rainer E. Lotz

**Watkinson, John:** *The art of digital audio*. London, Boston: focal Press, 1988. ((x,)) 489 pp., 24 x 16 cm, ISBN 0-240-51270-7: £37.50 (cloth).

Zunehmend bedeutender wird die digitale Audiotechnik, nicht nur im professionellen Bereich, sondern auch für den Endanwender. Hierfür soll nur ein Beispiel aus dem Bereich der Compact Disc genannt werden: Die Vereinbarung der Firmen Philips, Sony und Microsoft über ein neues CD-ROM-XA Format, das als Brücke zwischen dem CD-I-Format (Audiotechnik) und den CD-ROM-Format (Computertechnik) gedacht ist. Es bleibt nicht nur der Phantasie überlassen, welche Applikationen durch diese Verbindung möglich werden, beispielsweise wurde in England der Katalog einer Schallplattenfirma für klassische Musik vorgestellt, aus dem nicht nur die üblichen Informationen abgefragt, sondern auch Bild Darstellungen der Plattenhüllen angezeigt oder Musikbeispiele angespielt werden können.

Mit steigender Bedeutung nimmt auch die Anzahl der Publikationen zu, die dem Sachgebiet entsprechend überwiegend in englischer Sprache verfasst sind. So auch das vorliegende Buch, das sehr gute Kenntnisse der fachtypischen Sprache voraussetzt,

weil es Ingenieurwissen vermittelt und sich an den technisch vorgebildeten Leser wendet. Dieser wird dann fast alle relevanten Sachgebiete vorfinden. Es werden mehr Themen angesprochen als üblicherweise in anderen Büchern. So wird z.B. auch kurz auf die aus der Computertechnik bekannten Plattenspeicher als Massenspeicher für digitalisierte Audiosignale eingegangen. Um dem Vollständigkeitsanspruch genügen zu können, fehlt einzig ein Kapitel über die sogenannte Computermusik mit all ihren Aspekten.

Nach einer kurzen Einführung folgt ein Kapitel über die beiden notwendigen Umsetztechniken: Analog-zu-Digital und Digital-zu-Analog. Danach beschreibt der Autor in zwei Kapiteln die grundlegenden Prozesse, wobei geschickterweise zwischen einfachen Prozessen, wie sie beispielsweise in einem digitalen Mischpult notwendig sind, und fortgeschrittenen (u.a. digitale Filter und ihre mathematischen Grundlagen, Abstratenwandler) unterschieden wird. Im Anschluss an das Kapitel über digitale Schnittstellen folgt das grosse Gebiet der digitalen Aufzeichnungstechnik, wobei ein umfangreiches Kapitel den Techniken der wichtigsten Fehlerkorrekturverfahren vorbehalten ist. Der Themenbereich umfasst neben Magnetrecordern mit rotierenden Tonköpfen (F-DAT) und Recordern mit stehenden Tonköpfen (S-DAT) auch die Audioaufzeichnung mit Videorecordern einschliesslich solcher mit 8 mm Format. Ausführlich werden bei den R-DAT- und S-DAT-Recordern die wichtigsten Aufzeichnungsformate beschrieben (EIAJ, DASH).

Im anschliessenden Kapitel befasst sich der Autor mit den aus der Computertechnik bekannten Plattenspeichern, wobei zwischen magnetischen (Festplatten- und Floppydisk-Laufwerke) und optischen Laufwerken (ROM, WORM) unterschieden wird. Das Thema der Compactdisc (das optische Laufwerk der Audiotechnik) ist Gegenstand des letzten Kapitels, in dem alle wichtigen Grundkenntnisse wie die optische Abtastung mittels Laser, das Aufzeichnungsformat und die Fehlerkorrektur kurz beschrieben werden.

Das reich und instruktiv bebilderte Buch ist klar gegliedert, so dass es auch als Nachschlagewerk benutzt werden kann (Kritikpunkt ist hier das etwas zu kurz gekommene Indexregister). Hierbei können auch die jeweils am Ende eines Kapitels angegebenen

Literaturhinweise, die naturgemäss nicht dem allerneusten Stand entsprechen, eine Hilfe sein. Eine Bibliografie über zusätzliche Fachliteratur ist nicht vorhanden.

Horst Zander

John Watkinson has written many articles in technical magazines and has presented papers to learned associations such as the Audio Engineering Society. In this book he has tried to summarise the information about the principles of digital audio and the practical systems currently in use. The book falls into two parts. The first seven chapters cover the theory from the conversion systems, through processing and coding to error correction. The final six chapters cover the systems currently in use.

The first part of the book is not aimed at the general reader. To fully appreciate it, the reader requires a reasonably high level of technical knowledge including an understanding of Fourier, Laplace and Z plane transforms. A non-technical reader will understand much of the explanation but will feel frustrated when the writing, by necessity, becomes technical.

The second part, however, is much more readable. It is a clear explanation of the principles of operation of many, if not all, of the digital audio systems in current use. The systems are grouped into families for convenience. R-DAT, for example, is covered in the chapter on Rotary Head Recorders while S-DAT is in the Stationary Head recorder chapter.

The comments about the levels of technical knowledge needed should not deter the non-technical reader from acquiring a copy of this book. He or she will find that they will understand most of the explanations. The technical person will find the book both an enjoyable read and a useful reference work on a subject that is becoming increasingly important to those working with sound. One plea, however, is for any future edition of the book to include a glossary of the abbreviations and expressions used. When using the book as a reference work, the need to search backwards to find the first appearance of an expression and the explanation of it can be extremely time-consuming.

Two critical comments remain. The reader is frequently required to flip back and forth between a diagram and its explanation. This can quickly become irritating. Secondly, the proof reading has been less than satisfactory. In addition to errors such as that in fig

2.14, where the sign of the operations is different in the diagram from the explanation, the page numbers given in the list of contents are in error. From section 9.19 onwards there is a displacement of two pages between the contents list and the actual page number.

Notwithstanding these final comments, the book remains overall an excellent guide to digital audio. The technical jargon is tempered with a good practical view of the subject. It will benefit all that wish to find out more about any of the currently available digital systems.

George Boston

**White, Glenn D.:** *The audio dictionary*. Seattle, London: University of Washington Press, (c) 1987. x, 291 pp., illus., 23 x 16 cm, ISBN 0-295-96527-4: \$30.00 (cloth), ISBN 0-295-96528-2: \$14.95 (pbk.).

Glenn D. White has written a very readable dictionary, which is primarily concerned with the present state-of-the-art of audio. There are (if I have correctly computed) some nine-hundred entries, ranging from "Absolute Pitch" to "Zero Reference". References to other entries are throughout the text. White's definitions and explanations are competent and yet easy to understand. Occasional drawings contribute to a better comprehension. The author's critical commentaries that are interspersed among the entries are particularly enlightening. Here is a technician who is fully aware of the marketing strategies of hi-fi products, and he does not join in the chorus of glorification of the latest development.

There is an annotated bibliography, brief but useful, at the back of the book, listing twenty-seven recent titles as well as eight selected periodicals on audio matters. Seven appendices inform about wider aspects such as the problems behind audio measurement. Anyone who wants to buy a new stereo must read appendix 3 about "How to subdue a hi-fi salesman". A highly recommended concise dictionary!

Martin Elste

**Zakythinos, Alexis D.:** *Discography of Greek classical music.* Brasilia: by the author, 2/1988. 91 pp., 21 x 15 cm, ISBN 85-85204-01-X: no price given (pbk.).

Classical music here means "serious" or "art" music and is not, in case there is any misunderstanding, a counterpart to Greek classical architecture or drama. "Classical" here also tends to mean "contemporary" for few of the composers whose works appear were born before 1900.

This second edition of the discography by Mr Zakythinos is, like its forerunner of 1984, published in Brazil and represents, the compiler tells us, an increase of more than 100% in the number of items listed, now 496.

The original edition has been on my shelves since publication and, referring to it, I find that I added to it jottings relating to catalogue numbers missing from the entries. Most of these have now been independently added by the author, indicating at the very least that he has been concerned to improve his work as well as up-date it.

Recordings of Greek music made only a modest beginning. *WERM* lists, I think, nothing earlier than the two Philips discs of works by Skalkottas, Varvoglis, and Kalomiris which appear in its third volume and these, dating from about 1954 are the earliest in the first edition of the present discography.

For the second edition the compiler has unearthed an intriguing record of earlier date (1951) - Jani Christou's *Symphony No.1* by the New London Orchestra conducted by Alec Sherman on what I suspect is a private label of more than usually limited circulation. The discography includes a folksong arrangement *Dourou-dourou* by Constantine Sfakianakis. This together with Théodore Spathy's "The maiden of Alatsata" was recorded by Irma Kolassi about 1952 on a Decca 25cm-LP (LX 3080) remembered by the reviewer as the first microgroove disc he ever acquired. This record is omitted from the discography as is another version of *Dourou-dourou* by Kolassi on the slightly later Decca LW 5129, which included also other Greek folksongs.

While in general the names of only three Greek composers are likely to be familiar to the wider fraternity of record collectors - Skalkottas, Xenakis, and Theodorakis, the first two of these having been reasonably well represented on discs available in France, Britain, and the USA - it comes as a surprise that more than

twenty countries of origin have contributed at least one recording to the discography. The bulk of the entries naturally comes from Greece and such discs are not apt to be stocked even by specialist record dealers. They may not be easy to obtain therefore and one wonders what their chances are of surviving the CD revolution.

Mr Zakythinos lists recordings by country of origin with detailed contents and catalogue numbers and with his own item numbers added. In the succeeding index of composers with titles of compositions the item numbers are used to refer the reader to the main entry. I am not convinced that this is the best way of arranging such a discography where the obvious point of reference seems to be the composer and his works. What has been done, however, has been well done and this little book is recommended to the adventurous discophile.

Eric Hughes

## RECENT PUBLICATIONS

**Bahr, Edward R.:** *Trombone/euphonium discography*. Stevens Point, WI: Index House, 1988. xxv, 502 pp., 23 x 18 cm, ISBN 0-936697-02-4: \$64.95 (pbk.).

*Catalogo de discos de 78 rpm. en la Biblioteca Nacional*. (Madrid:) Ministerio de Cultura, Dirección General del Libro y Bibliotecas, 1988. 2 vols., xix, 1025 pp., 24 x 17 cm. ISBN 84-7483-470-8: no price given (pbk.).

**Kaiser, Joachim (Hrsg.):** *Leonard Bernsteins Ruhm. Gedanken und Informationen über das Lebenswerk eines grossen Künstlers*. München, Hamburg: Albrecht Knaus, (c) 1988. 222 S., 21 x 13 cm. ISBN 3-8135-0621-5: DM 32.00 (geb.).

Sammelband mit acht Aufsätzen (darunter fünf Übersetzungen amerikanischer Texte) über den Dirigenten und Komponisten Bernstein, ergänzt um eine chronologische Biographie in Stichworten und ein Schallplattenverzeichnis des Dirigenten und Pianisten.

**Popular music.** Vol. 7 (1988) No. 3. Cambridge et al.: Cambridge University Press, 1988, pp. 247-371, illus., 25 x 17 cm. ISBN 0-521-35897-3: £13.00 (pbk.).

This issue edited by Dave Laing and Simon Frith is subtitled *Music, video and film* and contains several articles on video clips as well as an extensive review section.

**Scaping, Peter** (ed.): *BPI year book 1988/89. A statistical description of the British record industry. Compiled by Heather John.* London: The British Phonographic Industry Limited, (c) 1988. 111 pp., illus., 25 x 18 cm. (ISSN 0142-7636), ISBN 0-906154-09-X: £7.50 (pbk.).

An excellent statistical survey well presented.

**Schmid, Armin:** *Eduard Melkus. Diskographie. Bibliographie.* Regensburg: Pro Musica Antiqua, 1988. 17 S., 21 x 15 cm. (Schriften von Pro Musica Antiqua. Nr.2), ohne ISBN: DM 6.80 (inc. Porto and Verpackung) (geheftet).

Erhältlich von Pro Musica Antiqua, Luitpoldstrasse 3, D-8400 Regensburg, BRD.

**Scott, Michael:** *The Great Caruso.* London: Hamish Hamilton, 1988. xix, 322 pp., illus., 24 x 16 cm. ISBN 0-241-11954-5: £ 16.95 (cloth).

Containing "A Caruso discography" by John R. Bolig on pp. 265-293.

*Tonträgerverzeichnis der Deutschen Demokratischen Republik. 1974-1980. Bearb. u. hrsg.v.d. Deutschen Bücherei.* Leipzig: Deutsche Bücherei, 1986. 290 S., 28 x 20 cm. (Sonderbibliographien der Deutschen Bücherei. Nr. 64. ISSN 0457-3900 / Tonträgerverzeichnis der Deutschen Demokratischen Republik. ISSN 0232-993X), ISBN 3-7360-0005-7: M 40.00 (Brosch.).

*Das audiovisuelle Archiv. Informationsblatt der Arbeitsgemeinschaft audiovisueller Archive Österreichs AGAVA.* Hf.23/24 (Oktober 1988)

Fortsetzung von: *Das Schallarchiv.*

**The following reissues of historical sound recordings deserve special mention:**

**Emanuel Feuermann.** *Feuermann's historic recorded performances.* 24 compositions by various composers including the cello concerto by Dvorák. Chanterelle: HS 2001 (1 CD, mono - 'split track') Available from Chanterelle Records, Suite 12, Ravenscar House, The Downs, Wimbledon, London SW20 8HT, Great Britain.

*Pupils of Leschetizky.* 17 historical recordings by Ethel Leginska, Benno Moiseiwitsch, Mark Hambourg, Ossip Gabrilowitsch, Ignace Jan Paderewski, Ignaz Friedman, Frank La Forge, Marie Novello, and Theodore Leschetizky (from piano roll). Opal: CD 9839 (1 CD, mono).

*Emile Berliner's gramophone.* The earliest discs 1888-1901. A selection of 39 records to mark the centenary of the gramophone. Symposium: 1058 (1 CD, mono, with informative booklet). Available from Symposium Records, 110 Derwent Avenue, East Barnet, Hertfordshire EN4 8LZ, Great Britain.

		Members	Non-Members (skr)
1.	An archive approach to Oral History, by David Lance	40	50
2.	IASA Directory of member archives, Second edition compiled by Grace Koch, 1982 ISBN 0 946475 00 8	60	90
3.	Sound archives: a guide to their establishment and development, edited by David Lance, 1983 ISBN 0 946475 01 6	75	105
5.	Selection in sound archives, edited by Helen P. Harrison, 1984 ISBN 0 946475 02 4	60	90

Prices include postage by surface mail, Orders, together with payment shall be sent to the Treasurer Anna Maria Foyer, Sveriges Riksradio, Programarkivet, S 105-10 Stockholm, Sweden. Checks shall be made payable in Swedish Kronor to the International Association of Sound Archives.

<b>Discography</b>	
Evaluating discographies of classical music	64
<i>Martin Elste, Staatliches Institut für Musikforschung PK, Berlin (West)</i>	
<b>Training</b>	
Training possibilities in France for third-world audiovisual archivists	78
<i>Thierry Delcourt</i>	
<b>Letter to the Editor</b>	
<i>George Brock-Nannestad</i>	80
<b>IASA Business</b>	
Report of the IASA Executive Board Meeting, Stockholm, 22-23 February 1989	83
<i>Jean-Claude Hayoz</i>	
Report of the Round Table on Audiovisual Records, Brussels 15-16 March, 1989	85
Training and IASA	89
<i>Helen P. Harrison, President, IASA</i>	
Guidelines for archives and libraries including moving images and sound recordings concerning access to and reproduction of their recordings	90
<i>Members of the Round Table of Audiovisual Records</i>	
<b>News and Notes</b>	
Joint Technical Symposium, Technical Co-ordinating Committee	94
<i>George Boston, Chairman of Co-ordinating Committee, Open University, Milton Keynes</i>	
Symposium on the new media, Ottawa, Canada 30 April - 3 May, 1990	98
<b>Reviews and Recent Publications</b>	100

## CONTENTS

<b>Editorial</b>	1
<b>Technical</b>	
Costs of storage in sound archives <i>Cor L. Doesburg, NOS, Hilversum</i>	4
The costs of storage and preservation <i>Dietrich Schüller, Phonogrammarchiv, Vienna</i>	15
Radio from the music box. <i>Ulf Scharlau, Süddeutscher Rundfunk, Stuttgart</i>	20
Sound tapes and the "vinegar syndrome" <i>Dietrich Schüller</i>	29
Report on the Joint Technical Symposium held in Berlin on 20-22 May, 1987 <i>Cor Doesburg</i>	31
Comment on "Ethics of Restoration", in FIAF-FIAT-IASA Joint Technical Synposium, Berlin 22 May 1987 <i>George Brock-Nannestad, Denmark</i>	38
A Note on rewinding of archival tapes <i>Paddy Naughton, Doug Smith, Australian Institute of Aboriginal Studies, Canberra</i>	40
<b>Copyright</b>	
Copyright and sound archives <i>Kurt Hodik, Austrian Group of IFPI, Vienna</i>	43
In reply-comments on "Copyright and Sound Archives" <i>Thierry Delcourt, Bibliothèque Nationale, Paris</i>	46
<b>History</b>	
Correspondence of IASA; Correspondence of Claes Cnatingius, Stockholm, 1968-1978 <i>Rolf Schuursma, Erasmus University, Rotterdam</i>	48