

International Association of Sound
and Audiovisual Archives

Internationale Vereinigung der
Schall- und audiovisuellen Archive

Association Internationale d'Archives
Sonores et Audiovisuelles

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The IASA Journal is published twice a year and is sent to all the members of IASA. Applications for membership of IASA should be sent to the Secretary General (see list of officers below). The annual dues are € 40 for individual members and €158 for institutional members. Back copies of the IASA Journal from 1971 are available on application. Subscriptions to the current year's issues of the IASA Journal are also available to non-members at a cost of € 70.

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Errata: In the IASA Journal no 24, Kevin Bradley's article was mistakenly titled *Policy Guidelines on the Production and Preservation of Digital Audio Objects*. It should read: 'A Programme to Manage the Biggest Risk to Analogue Collections: Equipment Maintenance' by Kevin Bradley and Greg Moss.

What is right? What is wrong? How do we know right from wrong? 'Ethos' is the Greek word for character; 'ethics' the philosophical science that deals with those acts that proceed from the deliberative will of man. Jonathan Dolhenty says in his article *A Brief Introduction to Ethics* that ethics are generally 'principles to be applied in practical situations'. Ethics in the broad term deals with character and conduct. Dolhenty goes on to say that the universal principles in ethics have an element of uncertainty about them, simply because the general principles (which may be quite 'certain' as a statement of objective validity), when applied to a specific human act, must take into consideration the circumstances surrounding the act. Most archival institutions and associations have established a *Code of Ethics* to guide our conduct in the archival environment, and to serve as a reminder of our responsibilities as archivists, as well as to gain trust, confidence and respect in the public domain.

This IASA Journal issue focuses largely on our mandate for ethical practice, be it protecting our collections, collecting metadata, or the way we preserve our collections. Verne Harris, renowned archivist in South Africa and abroad, says in his article 'Archival Ethics': *As human beings, as citizens, as professionals, as employees, we have rights and interests. We need to know them, and learn to exercise them – when necessary, protect them – with confidence. They are at play in every moment of our professional lives, whether we are appraising records, assisting a researcher, attending a management meeting, or taking a tea break. ... Which is why it is so important that archivists be held accountable, and that spaces for contestation in the archive be guarded jealously*. Ray Edmondson, well known for his role as promoter of the audiovisual archive profession, becomes our conscience in spite of his own belief that he is a 'troublemaker' when he says: *Our profession now has the maturity to support its own university-level training courses, a professional philosophy, recognised codes of ethics, and a sense of identity. These things have come relatively late to us, but they have better codified our responsibilities as audiovisual archivists. They encompass not only our personal behaviour as professionals, in relation to collections and colleagues, but also their logical consequence – our responsibility to look beyond ourselves and to influence the organisational structures (our archives) and their operating environments. Here, too, our professionalism in defending principles and perspectives which may be in tune with our own values, but at odds with those of our employers, patrons or the wider world, can be tested*.

In addition to both Verne Harris's and Ray Edmondson's articles, you can also read about the latest watermarking techniques to protect our digital collections, collection of commercial CD metadata, and an interview that one of our vice-presidents, Shubha Chaudhuri, conducted with Kevin Bradley from Australia about audio preservation issues and technologies.

This year's annual conference will be held in Barcelona, Spain. We hope to see you there to take part in the discussions on the theme *Archives Speak, Who Listens?* This year will also see the current IASA Executive Board bowing out, and a new IASA Executive Board welcomed. It has been a very fulfilling three years. We wish the new IASA Executive Board all the best for its new term.

This is my last President's letter and, somehow, it seems that it was only yesterday I wrote the first one. Three years is in many situations too short, and at other times too long. Why? It is too short really to change something in the life of the association; but it is sometimes too long when you have a full time job as well and are under pressure from all sides.

This is a crucial dilemma of IASA and – to be honest – I don't know how to resolve the problem. The role of NGOs (IASA has the status of a Non-Governmental Organisation) becomes more and more important in our global society. Even if we are a small NGO acting in a niche, we can feel this. We should raise our voice on many occasions, for instance the WSIS, the world summit on the information society, with its countless preparation meetings; the process leading up to the UNESCO convention on cultural and linguistic diversity; not to mention the increasing demand for training in developed and developing countries. But to become a really significant player on this scene, you need time and money. And we have no time, because we have a full time job besides our mandate as a member of the Executive Board of IASA, and we have no money, because our association is financially weak.

Considering this situation using commercial logic the advice would be clear: you have to merge with a more powerful association, otherwise you will not survive. The intention of the acting Executive Board is to try to avoid this solution by building up partnerships. The main partner we have chosen for the moment is the ICA, the International Council of Archives. Among the larger NGOs in the heritage sector it is the closest to our activities and our philosophy. And it is willing to accept us as a partner covering the expertise in the field of audiovisual documents. Another interesting partner - to my mind – could be AMIA, the Association of Moving Image Archivists, with which we hope to meet in a few years' time. But this model of co-operation also needs time for its development, and again three years is too short, even if we have done the maximum.

IASA also still has a problem identifying its clientele. Our friends from FIAT/IFTA and FIAF are addressing a relatively well defined public: Broadcasting Archives for FIAT/IFTA (even if the radio archives are still true to IASA – but in the broadcasting world there is a trend to merge them with the TV archives), traditional film archives for FIAF. There is a large community of archives that do not hold FIAT and FIAF membership, and this could be a chance for IASA. They are mostly non-specialised archives that have some important audiovisual holdings and an urgent need for expertise in this field. They often do not know IASA exists, and IASA ignores their existence for the time being. We should motivate them to join us and thus considerably increase our membership. But for this, too, we need time and money.

I am not pessimistic. Our association has the potential to survive and to grow. Our publications satisfy a wide range of interests, also outside our usual clientele. Our sections and committees are working hard to produce more documents proving the expertise of their members. My feeling is that we have to work on topics that meet the needs of a large community of archives, and to avoid themes that reflect only the needs of a small, highly specialised group.

The open concept of our association puts us in an excellent position as an integrator of the various needs of audiovisual archiving. IASA has played a primary role in setting up the CCAAA, the Co-ordinating Council of Audiovisual Archives Associations (see www.ccaaa.org), and thanks to its convenor, IASA's immediate past president Crispin Jewitt, this umbrella association is gaining more and more importance.

As you know, according to the Statutes of IASA I cannot stand for a second term of office, but I will remain a member of the Executive Board for another three years. I promise to do my best and to help the new board develop our association further.

Kurt Deggeller
June 2005

Archival Ethics

Verne Harris, Project Manager: Centre of Memory, Nelson Mandela Foundation, Johannesburg, South Africa

From Exploring Archives: An Introduction to Archival Ideas and Practice In South Africa, Second Edition, National Archives of South Africa, Pretoria, 2000, reproduced with the kind permission from the NASA and the author

Of Rights

The common characterisation of an archivist as someone working in isolation with heaps of old records is seldom realised in practice. On the contrary, inherent in archival endeavour is engagement in a web of interrelationships, the scope and complexity of which vary from situation to situation. Public archivists, for instance, are positioned within relationships to the state, the archival institution they work for, their colleagues, record-creating bodies, donors and sellers of non-public records, the archival profession, the records they are responsible for, the users of archives, and the broader society. Each of these relationships is informed by a balance of rights and interests, which are reasonably straightforward when seen in isolation, but highly complex when viewed as a dynamic whole. The potential for conflicting rights and interests and, therefore, from the archivist's perspective, for conflicting loyalties, is high. As Terry Cook observed:

"Often these loyalties are in perfect harmony. Yet, more than occasionally, they are in conflict, making the archivist feel very much squeezed like the meat in that proverbial sandwich and forcing him or her to make some hard choices."

Until the still relatively recent political and broader social changes in South Africa, the question of rights in relation to archives was largely restricted to discussion and debate around rights of public access and preservation of essential records – those records documenting citizens' rights. South Africa's transition to democracy has seen archivists catapulted into a new era, with all their work, all their professional decisions, ultimately subject to the Bill of Rights now enshrined in the country's Constitution. Moreover, readmission to the international community has exposed us to a growing worldwide emphasis on the value of appropriate record keeping in protecting the rights of citizens. This emphasis is drawing considerable attention to the record as evidence of transaction, to the need for record generating and record keeping systems in the electronic environment, and to notions of transparency, accountability, freedom of information and the protection of privacy. These realities are having a fundamental impact on the way archivists – in South Africa and in most other countries – perceive their role in society, and on the strategies they are devising for providing effective services.

The question of rights is complex in any context. Not only does each society define them in a particular way for a particular time, but rights operate at different levels simultaneously and are constantly being shaped in challenging ways by developing technology. The application of copyright to the Internet is just one example of the latter. And in practice archivists must apply this shifting rights framework to the often competing claims of record creators, users, colleagues, the archival profession and society as a whole. In this article I cannot hope to do justice either to the broad sweep, or to the rocky detail of this terrain. I propose to focus on the ethical dimension, positioning the archivist in the terrain with that timeless struggle to know right from wrong.

In his inaugural address as Chair of Archivistcs at the University of Amsterdam, Eric Ketelaar probed the heart of this struggle in these words:

“According to the Code of Ethics, laid down in 1996 by the International Council on Archives, archivists should protect the integrity of archives and should resist pressure from any source to manipulate evidence so as to conceal or distort facts. They also have to take into account the rights and interests of owners and data subjects and they must think of the user. The Code doesn’t give a recipe how to balance these different interests. Do the interests of the living outweigh those of the dead? ... Does the privacy of living persons override the importance of historical research and does the right of access give way to the right to forget? The official and legal discussion about these issues should get new impetus...”

In substantiating his point, Ketelaar offers just a few examples of a myriad questions that could be posed – for instance: At what point does state security give way to public interest? Does the right of access give way to preservation imperatives? Do obligations to users outweigh those to an employer? Should personal conscience override the law? And Ketelaar’s questions raise other questions – for instance, do dead persons have legitimate interests? What are reasonable parameters for the right to privacy? Questions, questions, questions. As Ketelaar rightly points out, the heart of the uncertainty, of the ethical struggle, is that no professional code of ethics provides a recipe, or blueprint, for resolving competing rights and interests. I would go further, and argue simply that there is no such blueprint.

Ketelaar’s professorial probing into ethics was stimulated by his reading of the American writer Martha Cooley’s novel *The Archivist*, which was published in 1998. The story’s narrator, Matt Lane, is a university archivist responsible for the university’s collection of literary archives and rare books. The plot revolves round Lane’s relationship with an acquisition of T S Eliot letters and manuscript poems, and the former’s ultimate decision to destroy the letters. Ketelaar’s assessment of Lane’s action is perfunctory:

“I would consider the archivist in this novel to be guilty of a serious offence against the professional code of archivists.”

Later in his address Ketelaar associates Lane’s action with various infamous cases of records destruction. A cut and dried issue, then. Lane was wrong. But what of Ketelaar’s own positing of complexity, of uncertainty and struggle, in the realm of ethics? Surely only a blueprint, which Ketelaar eschews, can sustain a quick, simple, unqualified condemnation? I must point out that the English translation of Ketelaar’s text leaves out certain passages in the original Dutch, a fact brought to my attention by Ketelaar in an e-mail correspondence between us. The Dutch version gives a more nuanced account of Lane’s action. Nevertheless, the condemnation remains decisive, untroubled by doubt.

Let us take a closer look at Lane’s story. The Eliot letters and poems are the product of a correspondence over many years between the poet and Emily Hale. Their intimate relationship ultimately founders, but Hale keeps the documents in her possession and in old age decides to bequeath them to a renowned American university. She tries to persuade Eliot to do the same with the correspondence she had addressed to him. Eliot is outraged at the suggestion – he does not want the correspondence to enter the public domain. He asks her to destroy his letters, but keeps quiet about the manuscript poems. Hale, believing she owes it to posterity, proceeds with the bequest, but out of respect for Eliot makes it conditional on public access being denied until 2020.

At this point several questions arise. Legally, Hale was within her rights to make the bequest. The documents were her property, with the law recognising only Eliot's claim to copyright in their contents. But what of the moral dimension? Was Hale justified in placing the interests of posterity before those of Eliot? Does the right to remember outweigh the right to forget? Does Eliot have a right to privacy reaching beyond the grave? Given Eliot's wishes, should the university have accepted the bequest? Particularly as he had destroyed the part of the correspondence in his possession, thus severely decontextualising the part in Hale's possession and undermining the integrity of what would be left to posterity. It is not my intention to answer these questions. I pose them merely to demonstrate that long before Lane comes into contact with the documents, the ethical issues around their archival status are far from cut and dried.

Lane joins the university soon after it receives the bequest. It falls to him to catalogue the documents. He is an admirer of Eliot's poetry, and has expert knowledge of the poet's life and other writings. Eliot's troubled marriage to Vivienne Eliot, who died after years in an asylum, fascinates Lane. His own wife committed suicide while in an asylum. From the outset Lane is uncomfortable about the bequest, and this turns to intense concern as he reads the letters while cataloguing them. They reveal a deeply flawed Eliot, a man who failed both his wife and Emily Hale in profound ways. Eliot's reasons for wanting the letters destroyed seem plain, and these reasons find a powerful resonance with Lane. After his wife's suicide he had read her asylum journal, which documents her sense of abandonment, and ultimately of betrayal by Lane.

Matters come to a head when Lane develops a relationship with Roberta, a poet and graduate student who tries to persuade him to give her access to the Eliot letters. Not only does Roberta provide warning of what Eliot will be exposed to when the letters become accessible, she also unlocks the barriers Lane has constructed round memories of his wife. His pain and Eliot's conflate, and he wrestles to a conclusion:

"An archivist serves the reader's desire. Yet what of the writer's – is it of no consequence? ... Eliot's letters to Emily were not ... his bequest. We were never meant to read them: only she was, and she relinquished them. Poetry was what he left us. It was all that mattered. The rest is not our business."

Lane destroys the letters, leaving only the poems for his custodial successors to find in the locked cabinet in 2020. He gives Roberta photocopies of the poems.

Was he wrong? His action was certainly illegal. It transgressed provisions in most archival codes of conduct. It infringed on the rights of Emily Hale, the university and researchers. But was it morally wrong? Was Lane not in fact profoundly *right* to respect Eliot's rights, and to obey the call of his own conscience? On balance, was the destruction of this unhappy, contested, partial archive not justifiable? Notice I say *justifiable*, not *right*. These are two different concepts. I think their destruction can be justified. But judgement on whether Lane was right or wrong needs to take the following into account. Lane confides in no one. He subjects his thoughts, his feelings, his motives, to no external measuring. His action fits snugly into a pattern of control, of an almost dictatorial exercise of will. When his wife enters the asylum, he destroys her files against her wishes. After her death, he reads her journal despite her desire that it be read only by her psychiatrist and then destroyed. He reads Eliot's letters despite their being closed. He teases Roberta with the hope that he might give her privileged access to the letters. Ultimately he privileges her only with access to the manuscript poems. This is a pattern of playing memory god. In destroying the letters is he protecting Eliot's rights, serving the writer's desire, or merely playing god? Is he obeying his conscience, or is he, in a symbolic act, literalising his struggle with the memory of another writer – his wife?

At this point I want to leave Lane's story – with questions rather than answers. Which is where I believe its author would want us to leave it. Why, you might ask, have I devoted so much of this chapter to it? Because it demonstrates so compellingly the absence of a blueprint for resolving competing rights and interests. It takes an instance of what most archivists would agree to be the cardinal archival sin – an archivist destroying material in his care that is of indisputable historical value – and shows that even here, where right should be discernable from wrong, the boundary between them is blurred.

Another reason for giving so much time to Lane's story is that it assumes what we so often forget – and what Ketelaar in his condemnation of Lane underestimates – that the *archivist* has rights and interests. As human beings, as citizens, as professionals, as employees, we have rights and interests. We need to know them, and learn to exercise them – when necessary, protect them – with confidence. They are at play in every moment of our professional lives, whether we are appraising records, assisting a researcher, attending a management meeting, or taking a tea break. I offer three examples. Firstly, two researchers arrive simultaneously. Both require substantial assistance. How do you balance their legitimate demands against your limited and stressed resources? How do you balance their competing demands on your attention? Secondly, you are assisting a client who has previously consulted colleagues of yours. You become aware of the fact that your colleagues have misinformed the client. Do you cover for your colleagues, or expose them? Thirdly, you are advising a senior bureaucrat who is pompous, has friends in high places, and in the course of the meeting gratuitously expresses offensive views on unrelated matters. Do you hold your peace in the interests of a good working relationship, or do you express your distaste?

Merely knowing our rights and best interests is a challenge, intellectually and morally. Far more challenging though – and Lane's story illustrates this so well – is knowing how to balance one's own rights against those of others, and knowing how to resolve the conflicting rights and competing interests of others. Knowing how. This, I would argue, is *the critical* question. But before addressing it directly, I wish to return to an observation I made at the outset and which Lane's story again illustrates – rights operate at different levels simultaneously.

There are what we call human rights, those fundamental rights we believe transcend time, place, law and culture. And yet, as we know only too well, we humans disagree on what is and what is not a human right; we interpret these rights in different ways; and we disagree on how to resolve conflicting rights – for instance, freedom of the press versus privacy, or the right to life versus a woman's right to control her own body. More precise and more specific, and therefore easier to work with, are rights defined by law – international, national and at other levels. I say *easier*, not *easy*. For all law is subject to interpretation – many people make a living out of it – it is subject to the vicissitudes of political change, and even in democracies law can contradict both human rights and the tenets of religious and other ethical codes. In apartheid South Africa, for instance, what was *legal* and what was *just* seldom coincided. For those concerned with justice, with choosing right over wrong, breaking the law was a way of life.

Then there are rights defined by a web of social codes, the web's complexity correlating with the degree to which a particular society is open and heterogeneous. Such codes are informed by the dynamics of social memory, tradition, culture, religious belief, politics, and so on. It is here that I would position professional codes of conduct. As with the law, these social codes are dynamic and subject to interpretation. And clearly no two individuals configure their values in relation to these codes in precisely the same way. Of course, those of us who are practising archivists are held accountable professionally to our organisation's Code of Ethics and to any other code we subscribe to by professional association. I have already

quoted Eric Ketelaar on the ICA Code's provision of guidelines rather than a blueprint for resolving competing rights and interests. At this point I wish to go a step further in suggesting complexity by arguing that in many instances the guidelines framed in professional codes are far from helpful when applied in practice. They define tension rather than suggesting an appropriate way of resolving it. Let me quote two instances, one from France and one from South Africa, to illustrate this. In February 1999 French archivist Brigitte Laine testified in the defamation trial of Maurice Papon against the writer Jean-Luc Einadi. The latter had accused Papon, a convicted war criminal, of wrongdoing while he was a police official in 1961 when police killed North African protestors. Papon sued him for libel. In her trial testimony, Brigitte Laine confirmed the existence of archival records substantiating Einadi's accusation. For doing this she was condemned for misconduct by both the French Archives Directorate and the French Association of Archivists on the grounds that she had defied legally defined restrictions on access to information. The Association cited provisions of the ICA's Code of Ethics in taking this stance. In contrast, Eric Ketelaar, who drew the whole episode to my attention, has defended Laine's action, citing different provisions of the Code.

The other instance is from my own experience. In 1993 I was working as a records management archivist in South Africa's State Archives Service. In July that year I received reports from junior officials in several government departments that they had received instructions to destroy certain categories of classified record without authorisation from the Director of Archives. My investigation revealed that these departments were acting on a government-wide circular instruction issued by the state's Security Secretariat. This was a large scale destruction of sensitive public records outside the operation of the Archives Act. I briefed the Director accordingly and was assured that every effort would be made through official channels to halt the destruction exercise. As days went by and it became apparent that official action was achieving nothing, and that even if it eventually were successful, it would be too late to prevent the loss of huge numbers of records, I was faced with a difficult decision. Should I allow the official process to take its course, or should I act outside official channels in an attempt to stop the destruction? In my struggle with right and wrong, I turned to the South African Society of Archivists' Professional Code. One of its provisions asserts that "the archivist has a moral duty to preserve information about the past and present for the future"; another that "the archivist must protect the integrity of archives/information against alteration, removal, damage and theft." Surely a powerful mandate to break the rules, to break the law if necessary, in acting against what I believed to be the illegal destruction of public records with archival value? And yet the Code also posits the following: "At all times the archivist must act within the parameters of the policy laid down by his/her employer"; and "the archivist respects the confidentiality of records in his/her care as determined in consultation with his/her employer." My employer was the state. For me to disclose what was happening to the press and other outside agencies, especially by providing them with a copy of the circular instruction – which was itself a classified document – would involve defying state policy on confidentiality, breaking public service regulations on proper conduct, and committing an offence in terms of the Protection of Information Act – which at the time carried a maximum penalty of ten years' imprisonment. I was confronted by contradictory imperatives and no guidance on how to resolve them.

Ultimately I did what was wrong in the eyes of the law, my employer and the last-quoted tenets of the Professional Code. I disclosed what was happening, to a journalist and to Lawyers for Human Rights, and provided them with copies of supporting documentation. My employer was subsequently taken to court and forced to acknowledge that the destruction exercise had ignored the provisions of the Archives Act. I had become a whistle-blower, someone who exposes wrongdoing, most commonly in the context of an employer-employee relationship. In making my decision I had been forced to reach beyond articulations of right

and wrong provided by law and professional ethics. I had scoured my own sense of right and wrong in an engagement with my understanding of human rights, my identification with a variety of relevant social values, and an assessment of risk to my family and myself. In the end my moment of decision was an intensely subjective one. Me and my conscience. And this, I want to argue, is where all of us find ourselves after we have exhausted the space provided by investigation, analysis and discussion. There is no knowing of right without giving an account of personal morality. For each of us has the right, and the obligation, to be true to ourselves.

Which brings us back to the question of how to resolve conflicting rights and interests, on which note I wish to draw to a conclusion. I have argued that the ethical dimension is always at play in archival work, not only in those extreme moments that secure the limelight in professional discourse. We need this awareness. I have also argued that the boundary between right and wrong is blurred. Very seldom is a choice clear cut. In most instances we will be choosing the lesser evil, or choosing the most right option that circumstances will allow, or choosing the best of various options with equal claims to being right from different perspectives. Moreover, none of us is impartial. We can neither stand outside process, nor avoid bringing to process a pre-impression shaped by our unique experiences as individuals. The most we can do is ensure that in taking difficult decisions we have done so in an appropriate way – in other words, we have got the how right. Getting the how right, I want to argue, always involves at least four elements. Firstly, illumination of the web of rights as it applies to the interested parties at different levels. Secondly, an analysis aimed at weighing competing claims against one another in the specific circumstances confronting the archivist. Thirdly, a testing of one's views and feelings with respected colleagues and friends. And finally, paying heed to one's conscience. If we follow conscience without taking the first three steps, we abandon accountability, and risk assuming godlike powers. If we ignore conscience and rely only on the exercise of reason, we deny our humanity and seek to avoid bearing the burden of choice. It is only when we embrace all four elements that we can feel confident about having fulfilled the responsibilities invested in us as professionals. And feel confident that when we "pull a fast one", bend the rules, even break the law, we do so with justification.

Let me emphasise that no matter how rigorous our commitment to proper process, there is no escaping subjectivity. Two archivists confronted by the same moral dilemma can embrace the four elements of process outlined above and come to different conclusions. And both be right. More disturbing is the reality that these two archivists might come to the same conclusion, but one be right and the other wrong. For ultimately right and wrong are determined in a realm beyond the reach of any human observer – in the deeper spaces of the subject's psyche. And that's why, unlike Ketelaar, I cannot pronounce on Matt Lane's destruction of the Eliot letters. Who knows what was happening in the deeper spaces of Lane's psyche? Who knows what was happening for Brigitte Laine when she gave testimony in the trial of Jean-Luc Einadi? Who knows what was happening for me when I blew the whistle on South Africa's Security Secretariat? Who knows?

In this section I have held insistently to a rights perspective on ethics. I have done so for two principal reasons. Firstly, I believe that it opens the broadest and most fruitful terrain. Secondly, I believe it to be the most appropriate to South African realities. But there are other, equally valid, perspectives. One of them attempts to link decision-making to the exercise of power. In the next section I extend my account of ethics into this fraught terrain ...

Of Power and Politics

Etymologically, the English word “archives” derives from the Greek word “arkheion”, which meant the place, or residence, of the superior magistrates, the “archons”. The root of this word is “arkhé”, a word rich in meaning – beginning, origin, command, power. In classical Greece the concept of “archive” was indissociable from the locus of power. Although citizens could gain access to certain records, the state generated the archive, kept custody of it, and controlled the use of it. This approach built on a tradition developed over two millennia in societies of the near East (Mesopotamia, Egypt, Persia), where archives were created by rulers and kept by them to support the exercise of rule.

The West had to wait until the French Revolution and its aftermath for the emergence of the notion that archives were for the people. The nineteenth century saw the establishment in Europe of public archives services and the growth of public rights of access to them. A “deepening” democracy in the twentieth century brought with it public services shaped by transparency and accountability, and emergence and expansion of the notion of freedom of information. Archives shaped by these values have spread to many parts of the world. As Jacques Derrida has pointed out, such archives can be seen, should be seen, as an expression of democratisation:

“Effective democratisation can always be measured by this essential criterion: the participation in and the access to the archive, its constitution, and its interpretation.”

Of course, he speaks of “the archive” in the broader sense. The question then arises: can the archive, in the broader sense, ever dissociate itself from the locus of power? Or, to phrase it differently, can democratisation ever remove the “archon” from the “arkheion”? For Derrida himself has argued that “there is no political power without control of the archive, if not of memory.”

To answer the question we must look more closely at the archive as structure and as process. In the terminology of Derrida the archive is a conjoining of trace and substrate – writing on paper, painting on rock, tracing (configuration of brain particles?) in the psychic apparatus. This is what separates “memory” from “archive”:

“since the archive doesn’t consist simply in remembering, in living memory, in anamnesis; but in consigning, in inscribing a trace in some external location – there is no archive without some location, that is, some space outside. Archive is not a living memory. It’s a location – that’s why the political power of the archons is so essential in the definition of the archive. So that you need the exteriority of the place in order to get something archived.”

The structure of archiving, then, involves a trace (text, information) being consigned to a substrate, a place (and it could be a virtual place) of consignment. And consignment, structurally, involves the exercise of power, what Derrida calls archontic power. Power in relation to both the process and the place of consignment. For South Africans it takes only a slight jiggling of memory to recall the obsessive guarding, patrolling and manipulating of consignment by apartheid’s archons. But Derrida’s point is that in all archives, all archiving – the diarist making an entry, the rock painter at work, the person sending an email message to a friend – archontic power is in play. (Let me digress for a moment. One of the distinctive features of the Internet is its fracturing of consignment, which makes the exercise of control – over both process and “place” – extraordinarily difficult. Archontic power is still in play, but concentrating it is almost impossible.)

It would not be inaccurate to describe Exploring Archives as an unfolding of sites in which archontic power plays. To pull out a few threads – without being too repetitious – and weave them more overtly within the dimension of power:

No archival tracing is simply a recording of “things as they are”. Those who trace are at once remembering, forgetting and imagining. Their positioning in power relations, their engagement with those relations, are expressed in the trace. Even that most fluid of archives, orality, that archive consigned to a dispersed substrate no one can “see”, is shaped within the power relations of a collectivity. To be archive, to become archive, a story, a memory, must have exteriority – it must be consigned to the psychic apparatuses of others. Which implies a stamp of collective approval. To quote again from Foucault, “the archive is first the law of what can be said...” And when it can be said, how it can be said. Archivists in all they do, from the smallest interventions – such as cross-referencing a document to other documents – to the most dramatic – such as choosing to destroy large parts of a records accumulation – are privileging certain stories and certain users. Apartheid South Africa was characterised by a divide between archivists who portrayed the normality of the system, and those who depicted its obscenity. Today the South African archival mainstream is dominated by those who tell the story of nation building. The National Archives is full of records documenting the oppression and dispossession of people under apartheid. Created to oil the system’s wheels, they were utilised by researchers in the work of apology and obfuscation through a relationship of symbiosis with the system. Today they are being used by researchers – also in a relationship of symbiosis with the (now democratic) system – to promote restitution.

So, power is always at play in the archive. And archivists, from the beginning and always, are political players. Of course, they can strain against the force of archontic power. They can seek to subvert it with an anarchontic power, one that troubles rather than builds memory, tends meanings rather than fixes meaning, dances with light and shadow rather than brings light. In doing so they are obeying the call of justice, a call that comes from outside any archival theory. This is a call that, I believe, archivists must heed. But no matter how closely they listen to this call, how hard they strain against the gradient of archontic power, they cannot entirely escape its pull. For the pull is a structural one for them. Even the most committed subversive in the archive carries an archontic shadow. This is why it is so important for archivists to be held accountable, and for spaces for contest in the archive to be guarded jealously. This is, in Derrida’s words, a measure of democratisation.

At the same time, every committed archon in the archive carries a subversive shadow. For the archive – and this is the fundamental insight of Derrida’s book *Archive Fever* – is divided against itself, always works against itself. Within the archon’s drive to remember is an instinct of forgetfulness, what Freud would label “death drive”. And what the archon chooses to forget or repress or suppress can come back. Within the drive to exclude is an instinct of inclusivity. These dynamics are clearly evident in South Africa today, most powerfully in the work of the Truth and Reconciliation Commission. There is no remembering without forgetting. There is no remembering that cannot become forgetting. Forgetting can become a deferred remembering. Forgetting can be a way of remembering. They open out of each other.

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You Only Live Once: on being a troublemaking professional

Ray Edmondson, Australia

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*Every society honours its live conformists and its dead troublemakers (Mignon McLaughlin)
A good name is rather to be chosen than great riches (Proverbs 22:1)*

Taking my cue from Sam Kula's "mea culpa" in the first issue, I've been reflecting on some professional dilemmas, past and present, faced during my recently completed 33-year career in what is best known as Australia's National Film and Sound Archive (NFSA). In part, this is preparation for working on a personal history of the Archive. In part, it is to answer some questions put to me by various colleagues in recent years.

Our profession now has the maturity to support its own university-level training courses, a professional philosophy, recognised codes of ethics, and a sense of identity. These things have come relatively late to us, but they have better codified our responsibilities as audiovisual archivists. They encompass not only our personal behaviour as professionals, in relation to collections and colleagues, but also their logical consequence – our responsibility to look beyond ourselves and to influence the organisational structures (our archives) and their operating environments. Here, too, our professionalism in defending principles and perspectives that may be in tune with our own values, but at odds with those of our employers, patrons or the wider world, can be tested.

For example, we could be faced with the dilemma of choosing the least terrible of uninviting alternatives, of weighing the pros and cons when charting a course through shades of grey with no black and white alternatives, or of choosing a harder course instead of the line of least resistance, perhaps even at personal risk. We may not seek these challenges: they may confront us.

Perhaps you have heard the unconfirmed accounts of librarians who, during the Cultural Revolution in China, deliberately disarranged their collections so that zealous red guards would not be able to find and destroy precious materials. During the Soviet era in Eastern Europe, when history was what the ruling regime said it was, there were audiovisual archivists who hid material they had been ordered to destroy, bringing it back to light when conditions had changed. And, of course, Henri Langlois's strategy of dispersing and hiding the collection of the Cinematheque Francaise during the Nazi occupation of Paris is the stuff of legend.

While hardly a risk worthy of comparison, I vividly recall around 1970 my growing concern, as a young archivist, that not only films but also old film posters should be preserved. At the time, the embryonic National Film Archive was part of the National Library of Australia (NLA), and in the collecting climate of the time, no one was particularly worrying about such ephemera. So I did something unilateral: I began quietly accepting donations when offered, secreting the growing poster collection behind the false wall in the screening room, and waiting for the propitious moment to raise the subject - and have my actions, as it were, retrospectively endorsed. Fortunately the moment arrived, and they were.

With that introduction, I would like to take you through three events or "case studies." Each was a turning point in the Archive's history, and in each some personal professional choices were necessary. Whether you agree or disagree with my choices is not the point: by definition,

they were personal decisions and someone else may have chosen differently. But they highlight the kind of recurrent dilemmas we face as professional audiovisual archivists.

The first case study came in the second half of 1973. For decades, the archival work has been a spare time occupation for one or two of the staff engaged in running the NLA's 16mm film lending library. Now a distinct staff unit of seven people was being established under my charge to run what was to become known as the National Film Archive.

After more than four years at the NLA I had long since realised, through growing contact with FIAF (International Federation of Film Archives) members, how little I really knew, and how severely limited was Australia's film archiving capability. I realised I was not going to learn much about the field without visiting its key exponents overseas. Through long correspondence with several FIAF members – helped by the personal encouragement of the legendary Ernest Lindgren of Britain's National Film Archive – I had worked out an itinerary, beginning in London and including the first FIAF Summer School, hosted by the Staatliches Filmarchiv in East Berlin.

Since the NLA could never fund such extensive travel by a junior officer I had sought the money elsewhere. I was unsuccessful at first, until Jerzy Toeplitz, a former president of FIAF who had just been installed as head of the new Australian Film and Television School (FTS), came to the rescue. The school funded me in my personal capacity for a five-month study tour of more than a dozen archives in Europe and North America. It was my first overseas trip, and this country cousin from the Antipodes found it a revelation.

On my return, I had to honour my commitment to FTS to present a report on the trip containing my observations. I wanted to do this thoroughly, and took a week's vacation to get it started. By August 1974 it was almost complete, and had become a magnum opus of some 170 pages. I had formed some clear views about how the work should develop in Australia, including the conviction, which by no means originated with me, that Australia needed an organisationally autonomous national film archive, properly financed and equipped, and separate from the NLA. I felt that the needs of the work itself, and the importance of the film heritage, should be recognised in their own right, on the standard pattern mandated by FIAF. I felt I should not allow institutional politics to hide such views.

At this point the NLA management, aware of my opinions and clearly worried about what I might be writing, asked to vet the report before I submitted it to the FTS. This seemed inconsistent with my obligation and when I asked him, Jerzy Toeplitz was of the same view. He did agree that I could give the NLA a copy at the same time I submitted it to him. I did this, whereupon the NLA management reacted in two ways: firstly, by informing me that I had damaged my career prospects by expressing my views, and secondly by preparing a submission to the NLA Council negating many of my observations. The first came promptly. The second I was never told about, only discovered it by accident years later.

The professional challenge I faced was whether to be completely honest about my observations, or whether to water them down with one eye over my shoulder on the potential reaction of the NLA. I felt I had no option but to choose the former. Whether I was naïve in doing so, I don't know; whether I would have been equally outspoken in later years, as a seasoned bureaucrat more experienced in the arts of presenting information, I don't know either. Certainly, in the internal politics of the institution, there was a price to pay: I was now a person with "disloyal" ideas, and from that point on I knew I was treated differently. But I had made my choice.

So much for the internal reaction. What I had not expected was the external response. Jerzy Toeplitz was well pleased with the report. And so, it seemed, were others. In short order, the FTS told me, they had received requests for about 20 complete photocopies of the report (which they fulfilled) and the journal Cinema Papers commissioned film historian Ross Cooper to do a précis, which was published in its issue of December 1974. My recommendations were now well and truly out in the open, and the following year an activist group, the Association for a National Film and Television Archive, was formed. So began a decade of discussion, lobbying, committees and reports, which ultimately led, in 1984, to the creation of the NFSA and its separation from the NLA.

Did my report trigger this reaction? If so, why? I can't definitively answer either question. I can only speculate that it proved to be the right thing at the right time. I suspect that, unwittingly, I was the first person to make an assessment of the Australian situation against a detailed international frame of reference, and it crystallised long held but unfocused concerns in the film community. If I had written a report with, let us say, more ambivalence and less frankness, would it have had the same effect? I don't know. But I have never regretted taking the course I did: and it has been a cause of satisfaction that most of the recommendations I made in 1974 have since been fulfilled. Most. Not all.

What I had observed on my trip fed directly into the systems and methods which the new Archive unit was setting up. On a small scale we were able to "departmentalise" functions on the European/American pattern and encourage people to specialise in areas like documentation, preservation and acquisition. Collection growth accelerated: so did its use by a resurgent film and television industry hitting its stride, to whom it became an increasingly important partner and resource. Conventions like the idea of voluntary deposit of negatives by filmmakers were established. Projects such as The Last Film Search widened public and political awareness of the magnitude of the Archive's task. That was important for what came next.

Dissolve to mid-1983 and the second case study. By this time, the future of the National Film Archive, and its continued attachment to the NLA, had become a matter of detailed study and debate by government agencies and film industry bodies. The NLA and the library community strongly opposed its separation: the Archive's constituency – the film and TV community, academics, users and supporters generally – strongly favoured it. It was not just a question of resources: it was also the question of whether a book library was any longer an appropriate setting for such an entity. By this time, I was Director of the NLA's Film Section, which comprised both the National Film Lending Collection (by now the largest public 16mm film and video lending library in the country) and the Archive. Comments were getting into the media and I knew that issues were coming to a head. I also knew that soon I would have to choose whether to duck the question of autonomy, or nail my colours to the mast. People in the film community, while recognising the protocols under which public servants worked, nonetheless made it clear to me that the time had come to speak up publicly. It proved a dilemma of a different order to the one I had faced in 1974.

My deputy, Mike Lynskey, and I briefed a journalist, Fia Cumming, who had written good stories about our activities and kept asking for new ones. Fia's article, *Film Rescued but Archive in Trouble*, appeared in the 16 August 1983 issue of *The Bulletin*, a national news magazine. Mike and I were quoted extensively, and we knew we were burning our bridges. We broke no rules, but we did break etiquette and protocol. Among other things, I affirmed the need for the Archive to be separated from the NLA – noting that "at the stroke of a pen, we can be wiped off the map if the National Library decides to reorganise itself".

The horse had bolted. The media now pursued the issue with a vengeance, and within a month it was being debated in Parliament. Most sentiment supported separation: but a few journalists favoured retention by the NLA, making dark allusions to “sinister, ruthless and exploitative” methods and unidentified “sectional interests” wanting to take over the Archive for their own ends, and to ambitious staff members who wanted “power and plum jobs” in the new institution. The Canberra Times editorialised that “establishing a new body would be wasteful and very likely harmful to the national interest”.

Another twist was soon to be added. I learned, after the event, that Prime Minister Bob Hawke had read Fia Cumming’s article of 16 August the day it was published, and had asked his principal adviser, Bob Hogg, to pursue the matter. I will here cut short a very fraught and complex story (you’ll have to buy the book or see the movie) by simply noting that Bob Hogg pursued it with vigour. In the course of this, in what proved to be a prescient move, the future of the NLA’s sound archive became linked to the film archive. The outcome was that the Arts Minister, Barry Cohen, announced the creation of the National Film and Sound Archive in Parliament, on 5 April 1984. At the same time he announced the setting up of two committees, one of which ultimately produced the “grand plan” for the Archive, *Time in Our Hands*, in November 1985.

Throughout the events of 1983 and 1984 I faced many ethical questions. Was I being disloyal to my employer (and who was my employer – the NLA, or the Australian Government?) Was my ultimate loyalty to the government and the Australian people? Or to the film community and the rest of the Archive’s constituency? Was I putting the future of my staff at risk? Should I, or should I not, involve them? Should I give advice to my Minister as he sought it from me, without first clearing it with my Director General? Etc? I sought guidance from senior friends in the bureaucracy. This was helpful, but none of it answered to the whole situation. I felt alone, and with my wife, who shared the traumatic months with me, I just had to make the best choices I could, step by step.

Today we would call this “whistleblowing”, and now there are organisations, codes of ethics, ombudsmen and legislation designed, at least in theory, to protect employees of public authorities who call attention to an unsatisfactory state of affairs. There was no word for it then, much less legislation or due process. I would not want to relive the experience. I have often wondered whether the same outcome could have been achieved with less angst and trauma. I doubt it. Sometimes, nervous and ill prepared, we find ourselves in the arena, and our professionalism is put to the test. We have to handle the metaphorical lions, and we may come off a bit the worse for wear. We can only try to be sure of our motives, and act with integrity as best we see the issues.

The dire predictions about the future of the Archive proved unfounded, of course. In 17 years the staff of the NFSA has grown from 15 to around 220, and with a budget to match. Following the events of 1983 and 1984, I found affirmation in the feedback from colleagues, Ministers, the constituency, and in the outcome itself: the steady development of the Archive to an extent that would never have been possible within the culture and priorities of the NLA (a statement which is not, by the way, a criticism). In fact, some of that affirmation came as recently as my retirement in April this year, and I particularly treasure a gracious note from a senior public servant who was a member of the NLA Council at the time of the split. He explained that he had opposed the separation of the Archive then, but in retrospect believed it had proved the right decision.

The night of 3 October 1984 was the gala official opening of the NFSA in its new headquarters, the honours performed by Prime Minister Bob Hawke – ably assisted by actor Max Gillies,

doing his celebrated impersonation of ... Bob Hawke! It was an extraordinary occasion, televised, documented and spoken about for years afterwards. 750 guests sent in their RSVPs, 1500 turned up, and everyone was packed into space big enough for 500 – all in teeming rain! No one said so, but you sensed how much it was a celebration of victory: relished, like no event before or since, by an entire industry and community. After a decade and more of activism, Australia had at last made a major statement about the cultural importance of its audiovisual heritage. It had set up, potentially, as ideal a structure to care for it and represent it as could be devised. The National Film and Sound Archive put Australia unequivocally on the map of the global AV archiving movement.

Now to scene three: the final case study is another gala evening. On 21 June 1999, some 500 guests assembled to mark the opening, by Prime Minister John Howard, of the Archive's major extension to the old Institute of Anatomy building, doubling the size of its headquarters. First visualised in 1985 in *Time in Our hands*, the extension had been a long time coming, but now the Archive was physically complete in its primary home. The honours were done, the ribbon was cut, but the main event was yet to come.

For the guests were then told that the Archive had a new name. It was a double title: the marketing name would be ScreenSound Australia and the formal institutional name The National Collection of Screen and Sound. It was explained that the new identity was a "move forward ... the first step in a long term effort to increase recognition of its work, and more importantly, take it successfully into the 21st century"... But amid the polite applause, it was obvious that many did not comprehend what had just happened. It transpired that there was to be no managed transition from the old identity to the new: its accumulated equity was abandoned, and the NFSA's well known kookaburra logo, recently emblazoned on glasswork throughout the new extension, was quietly scraped off while the evening was in progress. As they left, guests were given a letter thanking them for "joining us in celebrating the launch of ScreenSound Australia, the National Collection of Screen and Sound. We are now positioned for the future..."

The changes were purely cosmetic – an image makeover. The effects, however, were to be profound and unforeseen. As the news sank in over the following months, a constituency caught off balance, which had neither sought nor imagined change to an appropriate, familiar name, seemed to find little cause for celebration. Although a few liked the "sound" of ScreenSound, most reactions ranged from puzzlement to concern, even to outright laughter. Complaints and concerns flooded in and the impression was soon gained that the changes had been devised hastily, with insufficient thought or consultation. Within the first year, the formal institutional title National Collection of Screen and Sound was twice changed – first back to National Film and Sound Archive, then to National Screen and Sound Archive. Product sales, after rising steadily for years, dropped by nearly half. The inherent limitations of the ScreenSound formula became clear from feedback, while it also emerged that a new name that was supposed to be unique actually had other meanings and users.

The change, the manner of its introduction, and the misjudgement of constituency reaction revealed how far the once close relationship between the Archive and its supporters had drifted in the 15 years between these events. A sense of dispossession and even anger was sufficiently palpable to result in withholding of potential acquisitions, or permission to access materials. Perhaps the most symbolic indicator was the setting up, in early 2000, of the deliberately named Friends of the National Film and Sound Archive Inc. Its advent echoed the creation of the original Association for a National Film and Television Archive in 1975. The Friends released a discussion paper and charter calling, among other things, for a renewal of closer ties between the Archive and its constituency. It lobbied successfully for reinstatement of the word "archive" in the formal name of the institution.

To track the drama and dynamic of that year is too big a task for this article. But the larger issues emerging in its wake have universal relevance, even if I need to spell out the details in localised form. Let me describe them.

The first issue concerns the centrality of the professional descriptor *archive*. 'Are we still an archive?' one staff member asked me, soon after the change. The term had been dropped overnight without explanation, and as it rapidly became politically incorrect in the institution and its parent Department, the vocabulary of marketing – terms such as *positioning*, *branding*, *strategic alliances* and *new identity* – gained ascendancy.

The NFSA moved suddenly into a kind of professional no man's land. In one stroke, it had nominally distanced itself not only from the international AV archiving movement and the corresponding national movement, of which it was the putative leader, but also from the profession in which it was a leading teacher, as well as from its peers, the other national custodial institutions. It appeared to "vacate the territory" of national responsibility. Researchers doing a web search on the keyword *archive* would now miss it. While the term has since been reinstated in the official name, it has lost its pride of place to the promoted *ScreenSound* brand, a formula without obvious meaning, or professional associations. The Archive's primary public identity now proclaims no role or mission. Staff, constituency and the general public are therefore pointed to a brand rather than a profession. The subliminal message is one of ambivalence about the character, status and identity of the institution.

The second issue relates to the effect on historical accuracy, and access to the Archive's corporate heritage. The change creates a fracture, artificial but nevertheless real, in corporate continuity. Beginning with the media package released on 21 June 1999, history has been and is being rewritten as the new name is projected backwards in time - in corporate documents, policies, reports and elsewhere - simply because it becomes too hard to do anything else. Accurately celebrating the Archive's history becomes tortuous and therefore less attractive. Yet preservation and presentation of the past with integrity is an ethical fundamental for archives: if they cannot be accurate about their own history, is there any assurance that they would be meticulous about other history?

The third issue relates to the security and continuity of the institution itself. Alone among Australia's national custodial institutions, and contrary to the recommendation of *Time in Our Hands*, the NFSA is still not a legal entity: it remains a small division in a mega-department of State. It has no parliamentary charter or legislative base defining its role, nature, functions and status: the name *National Film and Sound Archive*, which asserted these things, was in fact its crucial public and professional guarantee of reliability and continuity. Having shown that the guarantee could be so lightly and unexpectedly discarded, it follows that the policies, the character, even the continued existence, of the institution are equally vulnerable. It could still disappear by a "stroke of the pen", as threatened in 1983. Dropping the professional descriptor *archive* without explanation, and assuming the non-specific identity *ScreenSound* could only add to such fears. Names create their own logic and mythology over time, long after the circumstances of their adoption are forgotten.

The fourth issue concerns the transparency of informed debate and enquiry. Experience has now shown that it is hard to debate any aspect of the NFSA's work without sooner or later coming back to the logic of its name. It is an issue of professional policy and philosophy on which open, public debate is as essential as on any other key policy matter. Yet the Archive's own publications have reflected virtually nothing of the constituency's questions and complaints, while many of those who have expressed views in private have good reason to be reluctant about going public. Reassurance is a precondition for genuine debate.

This leads to the fifth and most central issue, and the question I am most frequently asked: *Why was it done?* The few official justifications for the change have been brief, inconsistent and incomplete. For example, the longest explanation published to date is at odds on several points with the stance taken a year earlier. In the letter and press kit of 21 June 1999 the word *archive* has vanished, and a different formal name is put forward with the declaration that “we are now positioned for the future”. Nor is there any mention of reaching “educational and youth markets”. These incongruities are not explained, nor is supporting evidence offered for the assertions made in the later statement. The market-speak (*branding, positioning*) in a policy position suggests its own logic. The explanations do not point to a larger statement of rationale, and I am not aware that one exists. Such an omission is unusual in an institution traditionally noted for its comprehensive policy base.

Here we confront the essential character and *raison d'être* of an archive. Promotion and awareness raising are crucial, of course, but the credibility of archives, libraries and museums does not rest on the arts of the marketer. It rests on professional achievement: on the substance and quality of their performance in the core tasks of assembling, protecting, educating, researching and facilitating use of public heritage. This, in turn, relies on the values and skills of scholarship, curatorial expertise, intellectual integrity, and accountability. It follows that a detailed rationale, or explanatory paper, on the name change is indispensable to its informed acceptance by the professional community. Such a paper would, *inter alia*, have to deal with the issues mentioned in this article.

On this third case study I faced personal choices in the before-and-after of the name change. I communicated my views internally in the appropriate way and had to work out a *modus vivendi* as the consequences unfolded, which is a common challenge for employees. Although my sense of unease actually cost me some nights' sleep before the event (a sure sign of trying to rationalise one's better judgement), I did not then realise all the implications, or the crucial importance of maintaining a self-explanatory public identity. It took months to understand their full import.

The central lesson, if indeed I need to summarise it, is that we cannot treat our institutional names lightly. The name of an archive has many owners, because the institution grows and lives through the loyal support of many constituents. Names can be powerful and precious, and they carry a wealth of meaning, symbolism and associations. It was Shakespeare who famously said: “he that filches from me my good name/ robs me of that which not enriches him/ and makes me poor indeed.”

It is my assessment, more than two years after the event, that the renaming has not achieved universal respect or acceptance, and is unlikely to do so because of its inherent limitations. Multiple names for the same institution seem to confuse rather than clarify identity. To my knowledge, the NFSA approach has not been copied by other archives. If there are net benefits of the change they are still unclear; the costs, including the effect on credibility and supporter goodwill, have been significant. Whether one regards the name change as a success, a mistake or an experiment, it is an experience to ponder. Moreover, this state of affairs is self-imposed: one might ruefully observe that audiovisual archiving is hard enough at the best of times without needing to add self-made dilemmas.

And so to the current dilemma for me - and others. What name do I use for my national archive?

Until mid-1999, the NFSA had a focused, self-explanatory name that was universally accepted. Now it is known by three names: its original title and the two current official ones, with their

respective diminutives. All three are sometimes used at the same conferences, seminars or meetings. The situation is further confused by the ambivalence with which they are presented and the divisions and tensions which have been generated in the Archive's constituency by making it difficult *not* to align with the term *ScreenSound*: publicity, correspondence, services and normal business are built around it. Nonetheless, some supporters deliberately choose to identify with the original name or current formal name, and I am aware of many individuals who, like me, do so as a professional statement, to avoid implied endorsement of the *ScreenSound* formula. Sadly, this now limits their ability to promote the Archive.

In writing this article I have chosen to open up to the global profession an important matter of which it is aware but not informed. Some may feel it improper for me to comment on events which transpired during my recent employment. On the other hand, there is probably no other person in a position to knowledgeably break the ice, and I feel an obligation to colleagues and supporters of the Archive who cannot do so. The NFSA is a widely known institution in which I, and, I believe, Australians generally, rightly take pride. These events are part of its history. Most importantly, it is the issues, not the institution itself, on which I am commenting.

Having taken a long view of the NFSA's past, I now look to its future, noting two things I believe need to happen. Firstly, the recovery of a single, self-explanatory name as its public identity. I see no good reason why it should not revert to the historic name it was given in 1984, which – because it has substance, stature and logic – remains familiar and popular; its loss still constantly regretted in my hearing. Secondly, protection of its future, and its character, role and collections, by the passage of an Act of Parliament to give it legal existence, and the same statutory authority status as its peers, such as the *National Library of Australia* and *National Museum of Australia*. This was recommended in 1985 in *Time in our hands*. It was recommended earlier, too, in my 1974 report. It is long overdue.

Finally, I return to the question of the dilemmas we all face as professionals daily trying to make the best, or sometimes the least worst, choices we can, in the less than perfect institutions that we create and inhabit. We need the intellectual rigour to create and apply policies and philosophies with integrity. We need the openness to encourage debate and constructive criticism, recognising that, even if it is painful, the profession and our archives can only grow by it. We need codes of ethics, but also the discernment to apply them in unforeseen circumstances. We need the vision to think beyond our comfort zones, to influence our settings and structures so we may better achieve our mission to protect the world's AV heritage.

We also need, if I borrow a line from a current movie, “passion and the courage of conviction”. It is these qualities that drive all else, that make us troublemakers rather than conformists! It doesn't mean we won't make mistakes, but it does mean that as professionals we believe in and accept a certain personal responsibility for changing the world a little bit... and for handling the dilemmas that go with the territory.

Disclaimer

This article is written in a strictly personal capacity and the opinions expressed are the author's alone: they do not necessarily reflect the views of any organisation with which he is associated.

Large-scale Coverage of Metadata: Collection of Metadata on Compact Disc (CD)

(A short overview on the ZSK (Zentrale Schallplattenkatalogisierung ARD/ZDF))

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Paper presented at the IAML-IASA Congress, Oslo, Norway, 2004

Background

After World War II the four victorious allies (UK, USA, France and USSR) decided to reorganize broadcasting in Germany so that any misuse, as happened under the Nazi regime for political propaganda purposes, could never happen again. Most of all, a central structure under governmental leadership had to be avoided. Therefore, broadcasting was decentralized and declared a matter for the federal states of which Germany, as a federal republic, was composed. In principle, each federal state was (and still is) allowed to have its own broadcasting system under public law, in line with the Constitution and the Basic Law (the "freedom of reporting by means of broadcast" is a fundamental freedom written into the Constitution).

Legislation is needed to implement this constitutional mandate. In Germany, the parliaments of the federal states have general legislative jurisdiction with regard to the media which is, however, limited mainly to the technical side of broadcasting, i.e. provision and management of the telecommunication systems. Beyond that, national legislation regulates some areas of international broadcasting. The federal states, either individually or jointly, founded public-law institutions for the purpose of producing and disseminating radio (and later TV) programmes. Together, these public service institutions have the same mission: to serve the general public as a whole with programmes providing information, education and entertainment.

This was realized, and already in 1950 the then public broadcasting corporations decided to join together to promote their common interests through co-operation and co-ordination. The organization they founded for that purpose was called ARD (Arbeitsgemeinschaft der öffentlich-rechtlichen Rundfunkanstalten in der Bundesrepublik Deutschland) (Association of the Public Broadcasting Corporations in the Federal Republic of Germany). At present, the ARD is made up of ten federal members that are legally and economically independent of one another. In this way, the German broadcasting system guarantees a federative media structure and offers a large number and rich variety of radio and TV programmes.

Among many other things, the ARD has created independent institutions for the purpose of carrying out certain joint tasks. One of them is the DRA^[1] (Deutsches Rundfunk-Archiv, German Broadcasting Archive) which serves as historical central radio and TV archive for the period up to 1945. In order to offer more services beyond that, in the mid 70s the DRA introduced a small editorial department called ZSK (Zentraler Schallplatten-Katalog, literally 'Central Records Catalogue'). This was at a time when the ARD stations got records from the phonographic industry (the record companies that took this as a promotional measure in order to encourage people to buy more records) in vastly increasing numbers. This meant that every ARD station regularly received copies of the latest music published in Germany, covering mainly pop music. First of all, these records entered the sound archives where they had to be registered and acquired. Since all the ARD sound archives received these copies in nearly the same quantity, the obvious thing to do was to centralize the task of acquisition and cataloguing. This was quite simple, and the ZSK was born.

Some Abbreviations and their Explanation

ZDF: Zweites Deutsches Fernsehen: literally Second German Television. A TV broadcasting corporation, also a public service, founded in the early 1960s in order to set up a counterbalance for the ARD TV, which had held a kind of monopoly until then.

¹ DRA - Deutsches Rundfunkarchiv

GVL: Gesellschaft zur Verwertung von Leistungsschutzrechten: approximately 'Corporation for Exploitation of Intellectual Property Rights'.

EAN: Europäische Artikel-Nummer, European article number.

UPC: Universal Product Code

PhonoNet: A recently founded service provider of the German phonographic industry, acting as 'Internet mailbox' with the only purpose of collecting orders and passing them on to the distributors. The main users are record shops, retailers and special stores, but also radio and TV stations.

The Work of the ZSK Staff

Since the mid-70's, public radio stations in Germany have been broadcasting up to date information in order to inform motorists about traffic jams on highways. In the beginning, the proportion of popular music rose to a different, much higher level. Most of the recordings at that time were produced and published on vinyl records.

The index cards, which had been used so far to catalogue sound carriers, were not ideal for this purpose. Also, many vinyl records had to be acquired more than once, since several federal radio stations had set up their own information service.

The great quantity of metadata of identical industrial sound carriers initiated the establishment of ZSK by ARD and ZDF in 1978. From the beginning, electronic data processing was used. A database was set up that enabled the electronic transfer of metadata to every ARD radio station. At that time the ZSK staff included five employees who were experienced in working with a database - and a database including acquisition programmes. The gathered metadata were disseminated weekly via magnetic tape, so that every ARD radio station was able to import the data into its very own database system. In the beginning, 3000-4000 analogue vinyl records (singles, maxi singles and LPs) were gathered that way. Since the mid-90's, only CDs have been covered. In order to keep up with the number and updating of current releases, ZSK has been sampled by the phonographic industry with published recordings from scratch.

Sound Archive

Since 1978 the ARD Radio Archives have received metadata of the following numbers of sound carriers:

Sound Carrier Type	Number
Long Playing 30cm 33 rpm	39.039
Maxi Single 30cm 45 rpm	16.610
Single 17cm 45 rpm	35.137
Analogue Sound carriers, total	90.786
Long Playing CD 12 cm	161.192
CD Maxi Single 12 cm	64.732
CD Single 7 cm	1.451
DVD	532
CD ROM	30
Digital Sound Carriers, total	227,97
Grand Total	318,723

ZSK-Staff

Today, ZSK employs eight permanent staff. It is their job to gather metadata of an estimated 16 000 - 18 000 CDs per year. These metadata can be retrieved online by about 1000 colleagues at ARD radio stations and ZDF; about 100 of them gather and enter data themselves

into the ZSK database. This is the case when ZSK staff has not been sampled by the phonographic industry with CDs, or they have received the copies too late.

Criteria for Creating the Metadata

Metadata that are accepted by ZSK have to meet the following criteria:

1. Data must be complete and accurate, since dissemination of incorrect data (to ARD and ZDF) causes an enormous amount of otherwise avoidable work.
2. Data have to be up to date in order to be on hand before broadcasting. In special cases, data have to be acquired and provided within an hour.

Considering these facts, especially the huge amount of data, meeting both requirements has been a daily challenge.

Amount of Data

In 2004 the ZSK acquired:

14 109 CD (long playing and singles)

including:

217 957 audio tracks with

116 962 titles

The difference between the number of audio tracks and the number of titles can be explained by the fact that the same track/song is published several times on different CDs. In addition to long-playing CDs, maxi singles are on sale. For promotion, 'samplers' are also produced in order to encourage people to buy the latest CDs. In general, it is the custom to publish the same CD with different stock numbers. Our database contains titles that can be found, for instance, on more than 100 different sound carriers.

The metadata set of a CD contains the following information:

Each metadata set has a 10-digit 'object number'

Object Type: sound carrier

Below is an example of the metadata set of a sound carrier:

Datafield	field number	content
Object number		R010953478
Archive number	00	9234434
Total duration	01	73'33"
Main title	21	Flow
Representative interpreter	4A	Blanchard, Terence
Genre	5A	108jazz
Origin	704	Industrial sound carrier (GVL-Label)
Label	74	00148 Capitol
Record number	75	5782742
EAN (European Article Number)	78	0724357827423
Distributor	8B	8003 / BLUE NOTE
Record company	8C	EMI Electrola GmbH & Co. KG
Kind of carrier	82	DL CD (digital) 12cm industry
Recording/mixing/replay mode	84	DDD
<i>(remark: D is for Digital, an A stands for Analogue)</i>		
P-Datum (Publishing)	9B	P2005
C-Datum (Copyright)	9C	C2005
Date of acquisition (of CD) at ZSK	9H	2005-05-31
Dissemination date (of metadata)	9K	2005-05-31
Publication date (of CD)	9V	2005-06-06
Disc ID	7F	9312a00c

Since we deal with industrial sound carriers, we have to disseminate the metadata as dictated by the industry. The conventional barcode can be found on almost every CD, either as EAN (European Article Number) or as UPC (Universal Product). At ZSK, CDs are identified by one of these two barcodes. Only in the case of a missing barcode would a CD be identified by the record number.

The EAN can be found in the field 'Europ.ArtikelNr'. UPC can also be found in this field, differing by a prefixed zero.

The field 'Tonträger-Marke' contains the label code and the label name. Only CDs containing a five-digit numeric GVL label code are accepted and registered by ZSK, since only then has the broadcasting radio station the right to broadcast these CDs.

Next to title and interpreter, the metadata set has content information ('Programmart' / genre).

The end of the data set is followed by administrative metadata, such as the publication date of the sound carrier, the acquisition date at ZSK, and the dissemination date of the metadata to ARD and ZDF. In the above example, the CD was published on 6.6.2005 ('Veröffentl.Dat' / publication date), the ZSK input was on 31.5.2005 ('Dat. Pl-Eingang' / date of acquisition at ZSK). The metadata were supplied to the broadcasting stations on the same day ('letzte DB-Ausg.' / dissemination date).

Object Type: music title

The data set of the music title of a CD looks as follows:

Object number	M011040989	
ISRC	68	UBN20500015
Composer	10	Loueke, Lionel
Lyricist/author	13	Loueke, Lionel
Title	22	Wadagbe
Language	34	unknown
Interpreter	46	Blanchard, Terence
Soloist(s)	40	Blanchard, Terence
<i>(tp, synth programming); Winston, Brice (ss, synth); Loueke, Lionel (g, voc); Parks, Aaron (p); Hodge, Derrick (b); Scott, Kendrick (dr); Drossin, Howard (synth programming)</i>		
Class/Genre	51	04 Jazz
Performance	53	3 voc./instr. (mixture)
Recording date	63	2004-12-11 -2004-12-14
Recording place	64	Los Angeles (Ca), Henson
Recording Studios		
Sound mixer	66	Hancock, Herbie (P)
Sound engineer	67	Murray, Don
Edition	76	Moesha

These metadata refer either to the 'composition' (composer, lyrics, publisher, etc) or they belong to what the 'recording' endorses (ensemble, orchestra, interpreter, recording date and place, technician and producer). Soloists, or members of an ensemble, are listed by their instruments. Each data field belongs either to 'composition' or to 'recording'

Object Type: relation

Sound carriers and music metadata are captured via 'relation':

Object number		B011040990
Relation	R	FR R010953478
Relation	M	IM M011040989
Index	00	003
Duration	01	10'27"

This dataset has its own object number. *Relation R* contains the object number of the sound carrier, *Relation M* contains the object number of the music metadata set. The object type *Relation* also contains information such as the current numbers of tracks (*index*), as well as the track time (*duration*).

Objects can relate only to 1:n, never to n:m. A sound carrier can have several takes (or relations), but a music title can also have several takes (or relations; this is the case if one take is published on more than one CD). One relation (take) can never contain more than one sound carrier or title.

This object structure complies with the workflow of a broadcasting station: The sound carrier is a real object with ancillary copyright. It is stored in the archive, and has to be physically present in the broadcasting studio. The track is played by the operator in the studio. The music can be heard over the radio. For the listener, it is impossible to distinguish between several sound carriers on which the track can be found.

A standardized and machine readable way to distinguish industrially produced CDs is the EAN code or the UPC. These key codes can be found as barcodes on almost any CD, and facilitate the search to find out whether the metadata of a certain CD is already in the database.

The Database

Today, ZSK works with the 2nd generation of the database, which runs on a mainframe computer. The database software is DB2, and ZSK works with a custom made search engine called SUMATRA. Users can access and search the database via a mainframe computer interface. This is possible with a java acquisition client, too. Also, there is a ZSK web browser that allows certain administrative functions.

The 3rd generation of a server based database is in the planning stage.

ZSK does not work with a database of its own, but together with DRA (Deutsches Rundfunk-Archiv), RBB (Rundfunk Berlin-Brandenburg) and MDR (Mitteldeutscher Rundfunk). Almost 1000 users (from ARD and ZDF) have access.

The Content of the Database

The database contains metadata of:

Number of data sets	Object type
1 533 624	sound carrier
303 222	production
2 773 698	music
241 694	spoken word
3 651 818	relation
15 445	label
6 540	company
626 640	person
185 698	broadcast
9 338 379	Total

Data of industrial sound carriers can be found in the following object types:

sound carrier
music or the spoken word
relation

Reference data can be found in:

record label
record company
names of person, ensembles or orchestras

Considering the yearly growth of an estimated 300 000 datasets, an automated way of acquiring data became necessary.

Guidelines

Three aims needed to be achieved:

faster
(more) complete
fewer flaws/mistakes

Certain features of a CD help to achieve these aims.

Automation of Acquisition of Audio-CDs Conditions

In order to achieve a faster and better process:

- Existing metadata has to be acquired automatically. New metadata has to be merged with the existing in order to prevent double input.
- Metadata of sound carriers have to be acquired automatically. In order to achieve this, sound carriers need to carry descriptive 'data' that include media content.
- Audio recordings (CDs) need to be identified clearly.
- External users (outside ZSK, in ARD and ZDF) have to acquire data that is not yet, or not at all, available in the ZSK database. These users need to use their own resources and to co-operate.

Conclusion

Automated acquisition of metadata has become possible, owing to the normalized data structure. Today, a sound carrier or a recording can be found only once its metadata are stored in the database.

External Metadata

Looking at external metadata, PhonoNet and CMP offer data of media that can be found only in record stores so far. These data are transferred daily into the ZSK database. The key for this is the EAN code. In the event of the EAN code already being in the database, only publishing data and data 'out of stock' are taken. The database includes a complete list of all the published industrial sound carriers, not only published CDs. Two things are important here:

- Metadata already available reduce the effort of acquiring new metadata.
- Data from image or sound carriers, even if it is not standardized in the broadcasting station, allows online users an almost full overview of the productions of media enterprises.

Automated Acquisition with the CD-Acquisition Client

The CD was the first machine readable sound carrier.

Identification of a CD music title on a cd is possible by the ISRC code. The CD Client software, based on java, reads an audio CD and automatically saves certain data to the database.

What Metadata is ZSK Looking For

Data that can be found in the TOC (Table of Contents) of the CD:

- Track number
 - Duration
 - Audio or data track
- further technical information:
ISRC (International Standard Recording Code)
CD text
Multimedia data

To find a software program that was able to read and handle the TOC of a CD was not a challenge. However, it was much more complicated to find one that was able to read the ISRC code (since this code is not part of the TOC of a CD), CD texts, and multimedia data. Since the launch of the CD, ways of saving additional data on a CD were sought by the industry. The additional storage of scores, pictures, or lyrics was supposed to justify a high price. Today, only the ISRC can be found in the Q-channel of a CD. In recent years the number of tracks has risen. This was aimed at countering sales problems caused by mass downloading from the Internet.

ISRC

What is ISRC?

The ISRC (International Standard Recording Code) is the international identification system for sound and music video recordings. Each ISRC is a unique and permanent identifier for a specific recording, giving it an eternal digital fingerprint. The ISRC provides the means to identify recordings automatically for royalty payments.

The International Federation of the Phonographic Industry (IFPI) recommends that all the music producers use the ISRC. (<http://www.ifpi.org/isrc/>)

The structure of the ISRC is shown in the following example:

ISRC FR - Z03 - 98 - 00212

Country Code (2 characters) FR = France
Registrant Code (3 characters) Z03 – Mercury France
Year of Reference (2 digits) 98 = 1998
Designation Code (5 digits)

For more information visit http://www.ifpi.org/isrc/isrc_handbook.html

Today, almost 60 per cent of all the CDs published in Germany are encoded with the ISRC. The quality of the encoding has improved in the past few years. Occasionally a second ISRC is assigned to a CD. In that case, the music title has to appear in the database a second time.

CD Text

No information about titles, track numbers etc can be found on a normal audio CD. Several attempts were made, with the result that there are only a few CD players with a feature to show the CD text information. On the other hand, CDs that include CD text are able to be replayed with normal players without any trouble. The storage capacity of the CD was not diminished either, which made text CDs equivalent to the normal CD.

Data to be Found on the Internet

Another characteristic of a CD is that there are several sources on the Internet where metadata can be found.

The "Disc ID" is 'an identifier that is used to get free access to the appropriate metadata'. The disc ID is an eight-digit hexadecimal (base-16) number, using data from a CD's table of contents (TOC) in MSF (Minute Second Frame) form. The algorithms of the Disc ID can be found at (<http://www.freedb.org/>).

On-line Co-operation in the Network

During the mid-90s, all the ARD members and the ZDF were able to access the database, not only for retrieval but to add metadata of those CDs that ZSK had not received, or that were received too late,

Workflow

In order to provide the metadata, CDs need to be physically present at ZSK. That is why ZSK gets all the CDs that are published.

Accession

Every CD gets a ZSK number, labelling the CD with an archive or location number. The input date is also captured.

Scanning

The following information can be found on the CD by using the CD Client:

- Disc ID
- if present: EAN
- total running time
- localization
- running time of every single track
- if present: ISRC
- if present: CD-Text

Using the Disc-ID the Internet can be searched for more information.

Automated Registration

If the ISRC is available, existing music datasets are linked to sound storage media datasets. Attributes such as relation, localization and running time are taken up. For every ISRC a music dataset is inserted, if no ISRC data can be found in the ZSK database. Moreover, every single track can be handled manually with the CD Client, if necessary.

At last the total running time, as well as the disc ID, are added to the metadata set.

Finally, the metadata of the CD are completely registered, including all the track and music title information. This is often the case with up to date hit samplers, re-released CDs, and CDs with new EAN/stock numbers.

Manually Added Data

After automated acquisition, the remaining metadata have to be added manually. But this is much easier and faster than without the automated process.

Data consistency

Copied data show fewer mistakes. In the database, metadata can be copied in two ways, which serves to achieve greater uniformity.

Composition		
Composer	10	Gershwin, George (1898-1937)
Lyricist/author	13	Gershwin, Ira (1896-1983)
Title	22	Our love is here to stay
Year of creation	23	1937
Work title/series	28	From: The Goldwyn Follies (Film, 1938)

Record

Instead of new record data, existing data can be used, if there are different 'mixes'.

Ensemble music	43	Dave Hancock Trio: Hancock, Dave (tp, flh); Lee, Philip (g); Morgan, Paul (b)
...		
Class/Genre	51	04 Jazz
Performance	53	2 instr
Recording date	63	1989-07-13
Recording place	64	Dagenham (GB), Village Recorders
Sound Engineer	66	Hill, Richard (P)

Music as a Summary of Compositions and Records		
Composer	10	Gershwin, George (1898-1937)
Lyricist/author	13	Gershwin, Ira (1896-1983)
Title	22	Our Love is Here to Stay
Year of creation	23	1937
Work title/series	28	From: The Goldwyn Follies (Film, 1938)
Ensemble music	43	Dave Hancock Trio: Hancock, Dave (tp, flh); Lee, Philip (g); Morgan, Paul (b)
...		
Class/Genre	51	04 Jazz
Performance	53	2 instr
Recording date	63	1989-07-13
Recording place	64	Dagenham (GB), Village Recorders
Sound engineer	66	Hill, Richard (P)

Individuals\ statutory corporations

All the names of individuals or ensembles are compared with the reference data in the 'indiv.\statu.corpo.datafile' before being accepted for acquisition of updates.

Examples of datasets:

Name	NM	Gershwin, George
Short form	KF	GER
Name addition	N2	Name at birth: Gershvin, Jacob
Functions	FK	K.B.M.....
Instr./Stimml.	IN	Ltg; Kl
Gender	SX	m
Biodata	II	1898-1937
Birthday	GT	26.09.
Place of birth	GO	Brooklyn (NY) (USA)
Day of death	TT	11.07.
Place of death	TO	Beverly Hills (Ca) (USA)
Nationality	NA	USA
Profession/function	BF	composer; conductor; pianist
References	QU	Ba; Gr; Ri.erg; La Musica; KdG; EMuTh; HarPers20Jhd
Remarks	99	Gershwin died of a brain tumour
Status	BS	IHM

Here is an example of an incorrect name input:

Name	NM	Pets, Poker
Functions	FK
Relations	<>	see -> ZWB P000847307 Poker Pets

Name	NM	Poker Pets
Functions	FKP.
Remarks	99	Producer team from Sweden
Relations	<>	<- see ZWB P000847317 Pets, Poker

Database users are advised that only 'Poker, Pets' can be updated for acquisition.

Data output

Data can be accessed by users as soon as the input process is finished. Data can be copied online or picked up as a "finalized" database every day after 06:00.

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Digital Rights Management in Archives

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When the term 'Digital Rights Management' is mentioned, most of us instantly picture the vain efforts made against the so-called 'Napster phenomenon'. But how would DRM come to archives, one might ask? Is there a necessity at all? And if there is, how should it be addressed and realized?

Archives: vaults of cultural heritage. And in this function, an archive is the access point to a vast amount of knowledge every day. So an archive needs to be accessible to the public, and in this way it exposes its values to a broad audience. Besides this obvious purpose of preservation and communication, there could be a steadily growing possibility of licensing assets to third parties for profit.

At both points, where content leaves the safe nest of the archive, recordings are exposed to the same threat posed by misuse as the products of record labels are. The likely rarity of archive recordings even do sum up in a greater damage when exploited by non-authorized parties in a Napster or Kazaa-like environment. This is where the need for DRM comes into the picture. But the "how" is still where we have many options. From a purely technical point of view one has two paths to choose from: fingerprinting and watermarking.

Fingerprinting is none other than the extraction of a compact signature from a recording by which it can be identified later. Watermarking is equivalent to injecting information directly into the content. Both methods have their pros and cons, with several different implementations focusing on different aspects of rights management. The only principle that must be kept in mind at all times in regard to archives is that the original digitisation has to be undamaged.

It would seem that this principle places fingerprinting ahead, as the signatures are stored separately from the media content, but on the other hand we have additional things to consider. Fingerprinting demands vast IT support. It is a very complex method, so it cannot be run effectively on a home PC. Moreover, it requires connection to a persistent database in order to work. Watermarking can be done simply on an average standalone PC setup at faster-than-real-time speed, and its archive integration is still feasible without even touching the original digitisation.

Let's take a look behind the face of watermarking. From an audio engineering point of view we have two kinds of watermarks: additive and non-additive. Those in the first category are pseudo-noise signals simply layered over the host audio. Non-additive watermarking takes a different approach: information is encoded into the recording by modulating the signal. Although both introduce the same amount of distortion when balanced well, additive watermarks have been used more frequently in recent applications.

A convenient solution has to meet three important requirements: The watermark must be *transparent* - inaudible, in other words - to at least 95% of listeners. This is achieved either by a very low watermark signal level, by flexible adaptation in frequency and time domain, or by exploitation of the HAS (Human Auditory System) by embedding into masked frequencies. It is also vital that the embedded information survives certain alterations and transfers, usually referred to as *robustness*. A robust watermark can be detected after MP3 encoding, digital editing, effects, analogue transfer, sampling rate conversion, time stretch, etc. Naturally the more robust a watermark is, the less transparency we can maintain, and vice versa. As soon as watermarked content gets into the public domain, we have to prepare for a huge number

of attempts to remove the watermark. For this reason, the watermark needs to be *secure* and, if possible, to provide exact mathematical proof that in which cases the watermark can and cannot be removed. For instance, no watermark design is able to circumvent the central limit theorem, which actually proves the possibility of certain collusion attacks. But we can prevent separation of the watermark layer, if we exclude correlation-based methods in the detection phase.

NOA Audio Solutions has developed an audio watermarking machine in recent years, called "R₂O", which fits perfectly into the archive licensing scenario. In their recent whitepapers published at IBC and AES, they present the most precise mathematical proof, along with the most rigorous tests, to back their method. R₂O injects a string of 11 characters into the host recording in an acoustically transparent way. This inserted information can be then read even after a series of alterations and transfers, such as MP3 compression, digital editing, and analogue-digital transfer. To cap it all, the watermarking machine incorporates an extended public-key encryption mechanism to protect the injected information perfectly from illicit observation and removal. R₂O differs from the many audio watermarking tools available, because it is able to deal with both wide and narrow bandwidth audio signals. This is vital, especially when dealing with multiple output formats, as archives need to do every day.

Narrow bandwidth audio is known to be one of the tough subjects of watermarking when it comes to data density and transparency at the same time. Audio archives that have rich selections of vintage material tend to license their assets without considering protection of any kind.

R₂O audio watermarking technology has very good embedding properties at the lower end of the now commonplace bandwidth of 22 to 96 kHz, while also providing the convenient data density for quick watermark retrieval that is essential for database support.

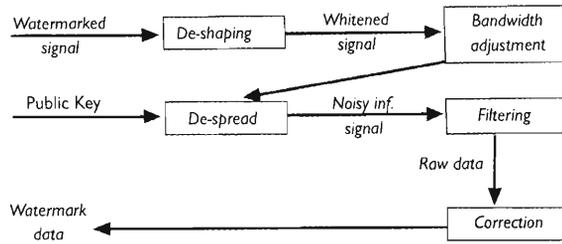
Mathematical Model

The mathematical model behind R₂O relies on operator algebra providing exact proof of robustness and security. In this model, audio signals are interpreted as polynomials, while different stages of the embedding, detection and attack workflows are represented by linear operators. We define two basic operators to model the spine of the system: the scrambling operator (*R*) and the perceptual shaping operator (*P*) along their inverses. Auxiliary operators handle common signal processing steps such as time scaling and normalization.

Data Structure

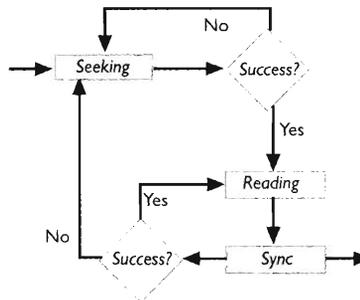
R₂O is frame based. Watermark data is represented by consecutive frames within the audio signal holding the corresponding data words. In a general setup, one frame consists of 2048 samples and one frame might contain up to 8 bits, depending on the planned watermark signal level and the targeted watermark bandwidth. Net payload is affected by the number of synchronization and error-correction frames inserted into the binary stream. This practically halves the gross value. In the special case of archives, however, only 4 bits/frame is used and synchronization frames are placed even more frequently to prepare for AD/DA transfers.

Figure 3: Detection Flowchart



During the process of detection, the reading position must be aligned correctly with the embedded frames. For this purpose, the detector has to seek a sync frame first, before starting to read the embedded watermark. After passing a certain number of frames, the reader must realign its position by searching for the next sync frame. Whenever the seeking process or realignment is not successful, consecutive seeks are performed until one is successful, or the end of the signal is reached.

Figure 4: Seeking and Realignment



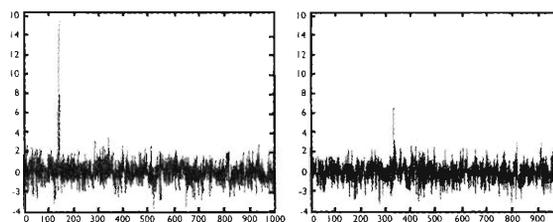
Security

The presented watermarking engine uses a pair of secret-public keys to embed and read the watermark. Reading a watermark is only possible with the corresponding detection key matching the embedded watermark, which leads to the possibility of having multiple watermarks layered over each other in a single recording. When designing R2O a series of intentional and unintentional attacks were taken into consideration that involve any operation between different watermarked recordings. These were divided into two categories: *multiple embedding* and *collusion and observation attacks*.

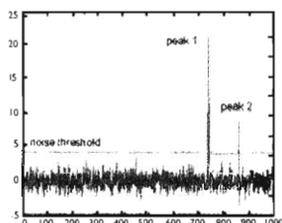
Multiple Embedding

We need to distinguish between different types of multiple embedding by the number of keys used.

Figure 5/a: Visibility peaks by different keys Figure 5/b: Visibility peaks by identical keys



5/b: Visibility peaks by identical keys



Watermark layers embedded using different keys are easily readable by the detector, because one detection key discards any information embedded by others. However, when embedding into a signal several times using the same secret key we must face the possibility of losing some of the watermarks. This effect is due to the fact that the seeking process recognizes a watermark frame by its peak visibility value. On performing a seeking process using different keys, it will return only one peak for each watermark layer (Figure 5/a). But in a signal where more than one layer is embedded by the same key, more peaks will be present (Figure 5/b). Assuming all these peaks can be clearly distinguished from the ground noise, all the embedded watermarks can be retrieved. But when any of the peaks does not exceed the noise threshold, it will not be recognized. Moreover, when the threshold is too low, it will lead to false detection.

Of course, it is not possible to create the 'perfect' watermark that is one hundred per cent inaudible, detectable in a noisy room through a microphone, and secured against intentional removal at the same time. We have to accept a trade-off between those three aspects, and come up with a solution that exactly meets our needs. In some environments, such as media monitoring, security is not as much of a concern as either of the others. But as soon as we get to Kazaa, for instance, it is the top priority, as content is the most exposed to hackers here, and the results of the SDMI (Secure Digital Music Initiative) challenge in 2000, where all the proposed watermarking methods were hacked, showed that extreme precautions must be taken.

R₂O has been examined in the light of a series of known intentional removal attempts, and has been prepared for some of them. Independent implementation attacks, such as averaging a sufficient number of differently watermarked examples of the same recording (collusion), makes R₂O fail too. It can be easily proven through the Central Limit Theorem that the probability of detection drops as the number of colluders increases. However, in the case of R₂O the reverse collusion attack, where many different recordings - carrying the same watermarks - are averaged by the attacker, obtaining the naked watermark layer can be prevented, and so can others known as *inserter observation* and *detector observation*. All these attacks are classified as 'D' (highest threat level) by Hartung et al.

The counter-measure for the latter three attacks is realized by introducing ϕ , an independent parameter, into the system. It affects some - otherwise irrelevant - properties of the generated watermark so that the detector will simply bypass these changes; yet randomizing this parameter ensures that there will not be two watermark layers identical to each other. Therefore, reverse collusion will not work, nor will *inserter observation*.

Archives are a special case in this regard. A mixture of all the possible uses of watermarking: mass and broadcasting use of licensed content are both possible and expected. Therefore,

archives and sound libraries require a solution where, instead of accepting a trade-off of our three aspects, we need a delicate balance between them.

Integrating a watermark solution into an archive exploitation system is the only sensible way of securing published archive content, which is accessible for instance over a CMS system. Of course, the paradigm of the perfect copy or facsimile of the original demands an unaltered, unwatermarked linear file in high resolution, typically $\geq 48\text{kHz}/24\text{ bit}$.

Therefore, two goals need to be attained:

- To mark publicly available low-resolution copies with information about the origin
- to add consumer-specific information to licensed copies with exploitable quality for tracking the possible exit points

Published Content

Low-resolution copies (e.g. mp3 encoded at 32kbps) of a certain recording usually serve demonstration purposes. Researchers and customers can listen to the selected material quickly before proceeding to download or order the high quality copy. Uncontrolled distribution of these audio files does not pose a financial threat to the licensor, because of the poor quality of the offered content. Therefore, a static watermark string will be embedded referring to the licensor, so the recording can be identified later and traced back to its publisher.

Production of watermarked copies is inserted into the workflow of the digitization process after the original, high quality audio file reaches its final location in the database.

Licensed Content

High quality recordings form the assets of an archive. Therefore, these recordings need stricter policies on watermarking. Instead of a standard, static identifier, these audio signals host information about the customer. (It is possible to embed either by lengthening or splitting the watermark string, or by the multiple embedding described above. In the latter case, however, one must be aware that multiple watermarks with the same cumulative transparency level are less robust to transfers and attacks.)

This customer related information is embedded in the audio signal on demand. For example, in a download scenario or an online store, the final copy is watermarked (and compressed, if needed) on the fly, initiated by the web interface.

With the licensee information in the audio, the exit point can be tracked and the responsible party called to account.

Tests

Transparency, robustness and performance tests were conducted to confirm the predicted properties of R2O. Subjects were chosen from the archives of Österreichische Mediathek, and were mainly narrow band vintage recordings and speech.

Transparency

We rated the transparency level of a series of watermarked audio signals. Listening tests were conducted in a studio environment involving musicians and sound engineers. Different watermark to signal ratios (WSR) and various genres were chosen. Naturally, robustness of the watermark decreases with the watermark to signal ratio.

Table 1: Perceptive Evaluation of Transparency

WSR	Music	Speech	Instrument
-15dB	Noticable	Noticable	Noticable
-20dB	Transparent	Transparent	Slightly Noticable
-25db	Transparent	Transparent	Transparent

As seen in Table 1, different content types show different perceptual behavior. Whereas music (rich frequency content) and speech can cover the watermark more transparently, single instruments such as the piano and the flute, which have transient noises, are more susceptible to aural detection.

Robustness

For extensive robustness tests we took the StirMark Audio v 0.2 tool extended by some tests of our own. We took an average archive audio signal having a string of 11 alphanumeric characters embedded at 68 bits/s payload. Then we extracted one five-second and one 30-second section and submitted them to StirMark (with default parameters) before detection.

Table 2: Test Results for StirMark Audio

Attack	5 sec	30 sec
AddBnum 100-10100	Passed	Passed
AddFFfNoise	N/A	N/A
AddNoise 100-300	Partially	Partially
AddNoise 500-900	Partially	Passed
AddSinus	Passed	Passed
Amplify	Passed	Passed
Compressor	Passed	Passed
CopySample	Failed	Failed
CutSamples	Failed	Failed
DynNoise	Passed	Passed
Echo	Passed	Passed
Exchange	Passed	Passed
ExtraStereo 30-70	Passed	Passed
FFI' - III.Pass	Passed	Passed
FFI'_Invert	Passed	Passed
FFI'_Real_Reverse	Passed	Passed
FFI'_Stat I	Passed	Passed
FFI'_Test	Passed	Passed
FlippSample	Partially	Partially
Invert	Passed	Passed
LSBZero	Passed	Passed
Normalize	Passed	Passed
Nothing	Passed	Passed
Original	Passed	Passed
RC_HighPass	Passed	Passed
RC_LowPass	Passed	Passed
Attack	5 sec	30 sec
Resampling	N/A	N/A
Smooth 1-2	Passed	Passed
Stat 1-2	Passed	Passed
VoiceRemove	N/A	N/A
ZeroCross	Partially	Partially
ZeroLength	Partially	Partially
ZeroRemove	Partially	Partially

The actual results are shown in Table 2. Legend:

- *Passed*: The watermark string was recovered without errors
- *Partially*: The watermark was detected, but the string contained errors
- *Failed*: No watermark was detected
- *N/A*: The StirMark tool produced the wrong output (silence)

Table 3: Additional Non-StirMark Tests

Attack / Transfer	5 sec
Down-quantization (8 bits)	Passed
3:1 dynamic compression	Passed
Flange effect	Passed
Hiss reduction	Passed
Stronger Hiss reduction	Passed
Old-radio effect	Passed
MP3 encoding 128kb 44Hz stereo	Passed
MP3 encoding 32kbps 22kHz mono	Passed
AD/DA transfer (cable and mic)	Passed

Having realized that the StirMark tool did not meet our needs for testing, we came up with a few auxiliary alterations chosen from common audio processing. These results are shown in Table 3.

Performance

In the view of processing speed, embedding takes 0.66x real time, while detection takes 0.1x - 0.5x real time on an average PC setup, depending on the severity of the damage suffered by the watermarked audio. The actual speed of the algorithm, quick detection provided by dense watermark data, and the portability of R2O (available on Windows and Linux, and some others to a limited extent) make it a convenient solution to integrate into database-driven archives.

It is important to understand that watermarking is meant to transfer the spirit of ownership and is not for prohibiting illicit use. Watermarking is only a way to hide data.

Further reading: www.audiowatermark.com

Audio Preservation and Things

Shubha Chaudhuri, Chief Coordinator, Archives and Research Centre for Ethnomusicology, India

Kevin Bradley.^[1] He is currently on secondment as Sustainability Advisor to a project concerned with Digital Repositories in universities, the Australian Partnership for Sustainable Repositories (<http://www.apsr.edu.au>)

These are excerpts of an interview which Shubha Chaudhuri made during a visit to Australia in 2002, for the ARC Bulletin, published in the ARC News 2004, reproduced with the kind permission by the ARC.

Shubha Chaudhuri: Can you tell us a little about the National Library, the audio preservation, and things you are doing here?

Kevin Bradley: I'll start with a description of the collection. The collection here at the National Library consists of 35 000^[2] hours of unpublished materials recorded since, primarily since, World War II. Most of them start about 1950, when the tape recorder was becoming a well known and affordable item in Australia, or at least reasonably affordable. It starts with one of our pioneers in oral history, Hazel de Berg, and one of our pioneers in recording Australian traditional music, John Meredith, both at about the same time buying a tape recorder (John Meredith pawned his beloved camera to afford his), and rushing out to begin their separate recording processes.

So the materials are all unique items, they are individual items. In the world of broadcasting sound archives, 35 000 hours is not much, but in the world of research archives it is a very large collection. It's under reasonably good control, it's not all completely catalogued to library catalogue standards, but we do have a record on the database for every item in the collection - not only collection items but every single physical item we own. So we're able to keep track of every physical item. In addition we have all these card indexes and paper records, which contain information such as access rights and deposit conditions, and all sorts of things that go along with that. But that database has been a really important part of the strategy, and in managing the collection.

SC: So, when you say physical item, it means one record per tape, or per disk, or for every bit that's on it?

KB: No, no, the single physical item. The catalogue itself is much more about content and things like that, and the database is much more about preservation management. Because it's such a complete record, it gets used for access as well. Primarily we developed it as a preservation management database, and it has become really important now in our digital management plans as well.

SC: That's really unusual: to create a database that is more for preservation. How do you think that differs from average cataloguing?

KB: I can say that I became frustrated at the library standards meetings, trying to alter - or trying to convince (because I'm not a librarian) - the cataloguing committees that look after the Australian National Standard, to include fields that would help us manage materials. Fields about technical information, about number of items, things of the kinds we need to know in order to manage a collection, and to point out - (to me it seemed blindingly obvious) that

¹ At the time of the interview Kevin Bradley was manager of Digital and Audio Preservation at the National Library of Australia. This gave him responsibility for three sections, Sound Preservation and Technical Services (SPATS), Digital Preservation, and PADI (Preserving Access to Digital Information <http://www.nla.gov.au/padi/> a very useful gateway for digital preservation information).

² The current size of the collection is 37,250 hours.

there were - logical inconsistencies in the descriptors in there. But to non-technical people, of course, they couldn't see the inconsistencies; on the other hand, they felt their arguments as cataloguers were as blindingly obvious, and as a non-cataloguer my problem was that I couldn't see it either!

At that point I thought the only way to resolve this would be to build a database we could use, so we convinced the library that over a number of years it would be worthwhile. We developed the database using in-house IT staff. I took a course on building databases, but realized that it was a far bigger task than I could manage. But it meant I could talk fairly logically with our IT staff, and we developed a database that contained all the items in the collection - a record of the type of tape it is, the brand of tape, the speeds, all that sort of thing. It means we could make an accurate estimate of how big our collection was, we could calculate how many resources we would need in order to manage that collection, we could say we'd take this many years to do it - knowing that the tape recorders were going to be around for just a little longer. In fact, now we are saying we think we can keep them going for another 15-20 years. That'll be just enough for us to manage the collection - our archive collection.

We can also prioritize now because we know which polyester tapes are more susceptible to hydrolysis, we know which tapes are acetate. As people went through and developed the database, they made a "comments" field that said things such as "smells strongly of vinegar", and such observations. So, we now can identify anything in the collection, such as spots of white molds, you know, the sorts of things you see on tapes in collections.

SC: Do you do a periodic survey of the tapes for these comments? Because there might be no white spots this year and there might be white spots next year?

KB: Well, the white spots never disappear and we know that white spots are a sort of mold. In a cool, dry climatic we can control them, and if we can kill the mold we can check it. If we come across, say hydrolysis, in a variety of tapes, though we were not expecting it there, we can add that to our list and we can interrogate the database and say, "Give me a list of all those ones with these." So we're able to revise our priorities continually using the database, but we don't go back and survey the collection, although everything new that comes in gets entered into the database.

The nice thing now is that when we move to a full digitization process, as I've talked to you about, when we are loading the material onto a central storage system - Digital Object Storage System, DOSS, as we call it - using a .bwf format, we want to create a metadata as part of the process. So we need simple things in the metadata that say: What's the title? What's its permanent identifier? Because we want to have a permanent identifier. We want to be able to say what format this .bwf file has come from.

This, I think, is the most important part of preservation metadata. That subset of metadata needed for preservation is talking about "changed history" - how we encoded it, what we used to encode it, what the original formats were. We will be able to identify any treatment for any audio file, and if it suffers from any problem, rectify that problem. The "changed history" will be really important when we come to the authenticity of an item. When we ask, "Is this authentically the item we encoded?", we'll be able to track what's been done to it - which is really the standard conservation approach to managing collections. You have to know how things were done, you have to be able to trace that path accurately, and you have to do it in the least costly manner that you possibly can. That, I think, is the point we are at, that is, automating all these systems so that they happen without people spending their important working time.

SC: That makes me feel a lot better, knowing we (at ARCE) have databases that do that. So we are halfway there.

KB: Yes, you are halfway there!

SC: Can you tell me a little bit about the kinds of collections you have - in terms of their content?

KB: We have three broad categories of material, and within those, hundreds of subsets. So, we have the "eminent Australian program" which is modelled very much on the Columbia University sort of model, except that, unlike Columbia, we claim that the tape is the primary document and it is the tape we preserve.

We employ contract interviewers with skills in a particular area, you know, - politics, science, or whatever it is we are trying to document. They will interview people extensively, or at least comprehensively, for a number of hours about their career, their life, ask for research records for people doing biographic type of work or the history of certain aspects of things. These probably are the most popular items, well used by historians and researchers, and constitute a fair chunk of the collection.

The other end, as we call it, is the "social history" end, and the last two categories blur into each other. The social history is looking at the documenting aspects of Australian lives, in particular, that might be anything from the history of the region to documentation of certain sorts of performance, or whatever. We have our third category, which is the "traditional music" category that started with the John Meredith collection. He was very keen to record our "bush" musicians, and that at a time when Australian cultural politics denied there was any such thing. At the time (1940s) many were saying our cultures were little more than English culture transplanted. Interestingly, Meredith was motivated by the idea that an imperialist, commercial culture was going to swamp the Australian culture, so his aim was to go out and find what was traditionally Australian. He started out primarily among the white Australian musicians, but by about tape five there were Aboriginal performances. He had wider interests and his collection grew in that way. There are now many similar folk music collections.

The other collection category that has grown enormously and includes all sorts of material from Australian migrant culture - which people are increasingly recognizing as quite a different subset from the home cultures, the traditional dance music, and traditional songs, as well as a lot of the Aboriginal material that crosses over between a white culture and one that was originally traditional. We have co-operated with AIATSIS (Australian Institute of Aboriginal and Torres Islander Studies). So AIATSIS has been heavily involved in doing the traditional aboriginal culture, which sort of strayed out of that area and has been more involved with things such as button accordion players, steel guitarists, gumleaf players, and cultures of that sort.

SC: I remember hearing a sample of that when I was here last.

KB: Yes indeed, I can hardly curb my enthusiasm for playing gumleaf music !

SC: I think it's very interesting, how you are able to sort of network between the three institutions here in Canberra, and kind of sharing you do between Screen Sound, AIATSIS and the National Library. This is unusual - for a library to be the main repository for unpublished recordings. How did that happen?

KB: It was just a circumstance thing, I suppose. Yes, it actually is the reverse of how these things normally occur. If you look at how most unpublished material collections generally form - they form when the collecting enthusiast realizes it can't fit in with a library culture and wants to go out on its own. The reverse happened then basically when the collectors of the published recorded materials realized that they couldn't fit in with the idea of a library and wanted to set up a film and sound archive, distinct from the National Library. And, the National Library felt that the unpublished materials should be kept in the Library as they related very strongly to things such as its manuscript collections and its pictorial collections; and because the National Library says it has to document the Australian heritage in all its forms.

Interestingly, Harold White, the first Director General of the Library, was very keen that the oral history programme should reflect or document Australians who wouldn't otherwise appear in the records. Though the "eminent Australian" part of it has grown, he was really pushing it from the point of the social history, traditional music and traditional performance end of the collection. Because he saw it as important to have in the library - a collection to ensure it documented all the Australians.

It seems that sound was a very good way of documenting a lot of things of that kind.

SC: It's very interesting. It kind of challenges the very concept of what an archive does and what a library does, in very interesting ways.

KB: Very much so. I think the distinctions are increasingly blurred.

SC:and that could only be a healthy thing.

KB: Yes, it could only be a healthy thing. As we move much further into the digital world, the distinctions between galleries, museums, libraries, and archives are growing ever narrower, and we are able to define our boundaries in quite different ways. We are in that process now, I think.

SC: I would now like to switch to digitization, where you have a lot of expertise, I know. What do you see as the future for digitization; where do you think we are with digitization right now?

KB: Are we talking digitization broadly, or digitization with regard to audio?

SC: I think with regard to audio, audiovisual. We are not at a stage where we can talk about video very confidently, so we'll talk about audio. What is the importance of digitizing audio at this point?

KB: Perhaps I can put it in the context of what's happening with the world in immediate digitization, which is being driven primarily by access. A huge amount of material is being digitized at a high rate, images are being put on the web everywhere, and it has been fantastically successful.... gaining access to collection items; institutions are joining together to pool their search engines; all those sorts of things are happening, which is producing really good results for still image digitization.

The National Library here has done a lot of work in that field. Digitization of audio material differs from that in as far as its prime motivation is not just access, it's also preservation. We've always, with recorded materials, dealt with a lot of the preservation issues that digital now has to deal with. This is that the items themselves are encoded in such a way that you can read them only using some sort of machine so they are available only if you have the technology. They are on carriers that are generally, inherently, unstable and are going to last for only a limited time. At least we hope that they'll last as long as the technology that's available to play them lasts. So, we're fighting the obsolescence and chemical degradation of the carriers themselves. We can't put them on the shelf and just leave them, as such materials do not survive benign neglect, unlike books and paper images - and similar things. If we put paper based material away on a shelf and look at it after a decade or two, it'd probably still be visible, still be readable - there may just be a bit more deterioration. But the sort of dynamic material we are talking about - recorded materials, particularly a lot of the unique recorded materials - are more unstable than the commercially produced ones, in a lot of

ways. Those materials will be unusable if they are left on a shelf and people return to them only when they think there might be a solution to the problem.

As we said in the last lot of questions, quite apart from instability of the carrier, the equipment to replay is only going to survive for a certain amount of time. So the process of digitizing and getting them on to this technology in a particular format - that we can easily replicate, and that we technically have the ability to manage in the future - means that it's a preservation step. That's the important motivation, I think, for audio preservation. This is our reason for doing the work we do here.

The spin-off is that the access has improved, and if you manage the process properly you get both access copies and preservation copies; and you improve the use of the material enormously. Actually, one of the best ways to improve your preservation is to increase its use. Once people value it, preservation becomes a much more natural task.

SC: And access definitely improves people's idea of the material's worth. We are in a very interesting transition. We've been more or less obsessed with the idea of preserving the carrier, all these years, and it seems we do have that more or less under control. We can control storage conditions and a lot of other factors, but what we cannot control is the industry, we cannot control the equipment that's going to be used, so this is going to be something that'll drive us right now.

KB: That's right, we need to take the next step. We have to remember that getting into a digital form is getting into a digital management process. So now we have the responsibility for ongoing management of the material in quite a different way from how we managed the predecessor copies of these analogue originals. The way we have to manage these materials is to be able - responsibly, timely and cost effectively - to find a way to navigate through the inevitable technical changes that are going to occur.

Our computer systems do not last forever and the digital forms we are putting it in are computer systems - but it's our only choice! It's the only way we can manage our collection, or they'll be completely lost. But to take this on is to take on the responsibility to manage them through to the future. So, we say that we choose this system not only because it's a reliable system, but because we can transfer it to the next system. Consequently, each step in the process now is actually ahead of time. By that I mean we are taking decisions now that are going to affect how we manage our collections into the future, and we need to take those decisions now. We are, however, in a position where we can make sensible decisions effectively about managing our collections. We are aware of what's going to happen, and we are in a position where we are not trying to put off copying, but we can make copying a very simple, automated and accurate process that we can then manage into the future.

SC: Well, as you know, I'm talking to you on behalf of our archive network. A lot of our members are archives, or they are people who have collections, or are dealing with audio in different ways. There is great enthusiasm now about digitization because it seems very simple. You know, a lot of people think all it needs is just sticking a sound card into your computer and you are ready to go. One of the scary bits is that then the expertise is seen as moving to people who handle computers, and do not always have a great understanding of sound. It seems to me like we have to also think about the stage that goes in playing back the materials because what you digitize will be forever, in some ways.

KB: That is true. At the point we make copies, we can take decisions to extend the life of our collection, or we can take decisions that limit their value. Unless we take the right

decision, the value of the collection, as a digital item, will be severely limited. For example, the weakest link in the computer system is the sound card. Basically, computers are electrically a noisy environment, they just do not suit audio terribly well, but they are great at managing digital things. So, for example, you need to be able to get your audio information into the computer, in a digital form, using top quality analogue to digital converters beyond that noisy environment. That, as we have discussed many times, reduces things such as the signal to noise ratio you get at the digital part of the process, and the accuracy of the actual bit rate - because the bit rate reflects the dynamic range. Most of the cards pretend to have a bit rate of 16, 20, or 24 but in fact their effective dynamic range is much less than that. So, we are wasting an awful lot of audio information on the conversion process, unless we can get the information into the digital form using top quality, reliable A to D converters. Once it gets into the computer, it becomes data and our problems are of a different sort.

SC:of a different sort, yes, it just becomes managing files.

KB: Yes, it just becomes managing files. But that first process of being able to get as much quality audio as we can off the carrier - that means off tape recorders, or whatever sort of format they are; setting the system up to ensure the audio we pull off them is of the highest order, and the most we can pull out of the tape or the disc or whatever it is we are copying; and then converting that using the full dynamic range available to us for those items....and frequency response....but dynamic range, it seems to me, is one of the more important aspects; converting that completely to a digital form that is both reliable and accurate, and then getting that into the computer. If we can do that we are miles ahead! Then, if we can make a copy that we never filter, we can play with it as much as we like after that.

SC: What do you recommend for storing these files that we make?

KB: Physical format, or carrier format, file format?

SC: Both.

KB: For file format we use bwf, which is broadcast .wav format. It has the full depth of use that a .wav format has, but it's also a special format that has been developed to include file headers, or metadata headers. The technology means we can take advantage of that ability to import and export metadata, to open it up and know what the information about it is - that's why we use bwf. Also, a good many other archives are using it all over the world so exchange seems to be less of a problem. It's a good choice for that kind of reason - it's not the only choice - we could just use a straight .wav format and achieve some of the same benefits, but perhaps not the metadata aspect. We could use aiff, a Mac format, and again achieve some benefits but less market penetration. So, for each of these you step away from the ideal, you lose some of the benefits - but these three are the viable formats because they are full, uncompressed, linear formats. Perceptual based audio compression discards information and is unsuitable for an archive.

Again drawing an important distinction - audio compression - that is the sort of algorithms that alter files to make them easier to play and transport, such as mp3s and the like - and data compression on a computer, are two totally different things.

SC: We were talking about digitization and where we are with audio digitization at this point, and you mentioned why you don't think just plugging in a sound card, however good it is, is going to work. So what are the recommended standards at this point for digitizing audio?

KB: Well, the standard for bwf digitization would be 48 kHz 24 bit, and the standard that has been promulgated by the sound archiving community is 96 kHz 24 bit. I think you would need to make an educated decision, according to what you are doing, on which of those two standards you would apply. The difference is only in the sampling rates, as you would see. One gives you a frequency response to 48 kHz; 96 kHz gives you a much higher frequency response, but its main benefit is that it puts all the anti-aliasing filter, which is part of the replay and conversion technology, well outside the audio band. So, from that point of view, 96 kHz is a benefit. People can't hear 48 kHz audio, as we don't have the hearing range of bats! But moving all the filtering processing and the effects of those filters right outside the audio band improve the quality of the audio.

The other thing is that if we could actually build better filters, we wouldn't need all that. But it seems the recording industry is always going for bigger numbers, so 96 kHz is the sort of standard to which people aspire. This means technology would follow 96 kHz, which means the sort of technology we would need to access our files would be looking at 96 kHz. If we wanted to work on our files afterwards, say, processing or analyzing, there are going to be tools, eventually, that would work in the 96 kHz range. At the moment they don't, and if you record things on 96 kHz 24 bit and then try to play them on your standard computer with a standard reader, it will just fall over - it will not be able to deal with that range of technology. So what we do here is we do 48 kHz 24 bit for any analogue source, that is pretty well standard, and we do 96 kHz for things such as record master quality recordings...

SC: ...those you are making fresh?

KB: No, these are conversions of analogue tapes - digitizing analogue tapes. Everything we do fresh, if we are doing it in the studio, is 48 kHz 24 bit, that's just standard. That's what we record to. It works, basically, as a system. If we're converting from tape, the only time we go to 96 kHz is when we have a really top-end LP master that has been done in a studio somewhere. Certainly there is no point that I can see in converting a cassette, with a frequency response of about 6 kHz, using something with a frequency response of 48 kHz - a total waste of storage space!

SC: So what would you recommend for transferring cassettes?

KB: 48 kHz 24 bit, that's the minimum standard for anything.

SC: People who have DATs, audio cassettes, stuff like that, could do 48 kHz 16 bit, or would you recommend 24 bit?

KB: I'd recommend 24 bit... but there is no point in converting a DAT to 24 bit, you don't gain anything by putting an extra number of zeroes at the end of your file. So if you are recording DAT on the field you store it at the standard that it was recorded at, that seems to me to be the sanest way to go. You set your DAT to run at 48 kHz 16 bit because that's the best that DAT will do, and you store it as a 48 kHz 16 bit file in your collection. If you've got a 44.1 kHz file because it was done on other sorts of tape formats, you store it as a 44.1 kHz file. You can apply sample rate conversion to it and store it at 48 kHz as a second copy but your primary copy should be a copy of the digital file. The same thing we do with any copying process - you try to copy the original as it is and then you do something else afterwards.

SC: What if you were converting from audio reel, from reel to reel?

KB: 48 kHz 24 bit, unless it's a top-end LP master, or something like that. The other concern is mechanically encoded materials - those present a different sort of issue. Things like LP discs have all sorts of transient clicks and pops which exceed the audio range. If you encode those completely using 96 kHz, which gives you higher rise times, and 24 bit, because that's what you've got and that gives you the best dynamic range - you stand a better chance of being able to process them later and remove them. From that point of view, for those sorts of mechanical carriers, it's worth doing. For tape carriers we don't have that sort of transient - the clicks and stuff that occur on a tape have already been slewed by the technology, so you don't gain anything by sampling or converting at a higher range than what you've got.

SC: Is there any benefit in having 24 bit, in terms of giving ourselves more room from 16 bit, in order to work with recordings later on?

KB: Depends on the source of your material. For every new recording or conversion from analogue sources, 24 bit should be the minimum. However, as I've said, if it's a 16 bit DAT, you are not going to gain anything if you convert it to 24 bit. For sampling rate though, if you already hold a digital recording encoded at 48 kHz, you can just double sample - it doesn't give you any more quality - it's already there, it's already encoded, so double sampling to 96 kHz afterwards does not give you any benefit. Though it may eventually allow any new technology to process the material, there is no immediate quality benefit....

SC:there is no qualitative benefit.

KB: Yes, the benefit of going to 96 kHz only occurs at the time when you convert from analogue to digital, or 24 bit, and that's something else, at that point of conversion. So, whether that's somebody's voice you're recording, or it's a conversion from a tape - that's the point where it makes a difference, after that you're fixed, the decisions you've made are stuck with the item. It's tempting to say to everybody, "Do 96 kHz 24 bit because then you cover every circumstance," and that's exactly true, but on the other hand it's really up to the archivists to make educated decisions about their conversion rates and the technologies they are using so as to gain the best cost benefits from the systems they are using.

SC: I think a major issue is going to be metadata, in dealing with digitization. What do you think are the major issues people ought to keep in mind when creating metadata?

KB: (laugh) How many hours do I have to answer that question?

SC: Five minutes... give us just the basics.

KB: There are many aspects to metadata. There is metadata, which is like a clever catalogue, so it's a sort of descriptive metadata. If you don't have that you lose a lot of value with your collection. The better your descriptive metadata, the better the key words, all that sort of things that you use...

SC: ...improves the retrievability.

KB: Yes, improves the retrievability, improves the use of the material. Then there's the metadata that describes the structure of the file and things like that, that is generally inherent in the file itself but you like to make it explicit in your metadata because that information will be used in the future. When you ask yourself, how many of whatever files have you got to convert to whatever the new format that you are moving to, you need that sort of structural metadata - about the item itself.

SC: You want to extract things that are otherwise not going to be implicit in the record. You want to extrapolate those technical parameters into the data.

KB: Yes, and there's quite a bit written about it, so you're going to need to manage the collection into the future. You want it to be explicit, because you don't want to be going through and opening every file in your archive - you want a database that does it. If you can harvest it automatically, there's no extra cost....

SC:no extra cost and no extra time.

KB: Yes, and you should be able to have that information automatically, or technical information about that item itself. There's the metadata I described before, which is the coding history, the provenance of the item itself that describes the changes that have been made to the item over time. The relationship between the components of a digital item is an important part of the metadata. The best example is that of a book. If you get a book and you digitize it page by page, the structure that tied the pages together is gone, unless you build it in. The same is the case with an interview, or any multipart digital item. You do an interview or a recording - it's related to other tapes, and unless you build up the links and the relationships between the items, that sort of relationship between the items is lost as well - who did it, what sort of technology it was done on, that sort of information. There's an endless array of things you could record and could easily build an argument for, as being valuable; however, you've got to balance that up against what is practicable. So, the important part is to make use of existing information. Most of us have databases or systems with this existing information, in some form or another, so you've got to try to make use of existing information and then harvest as much information automatically from the items themselves....

SC:so as to enrich the quality of what you're doing.

KB: Right, and then inherit as much as you can from other records as well. If you take that kind of approach you can end up with a good, comprehensive range of metadata - and hopefully not too big a load.

I haven't said a single word about rights management and things like that, which are vital, not only for using the material, but also preserving it. Suddenly we are in a legal situation where the preservation steps are not terribly different from making copies of the item, you know, access steps. We need to be able to distinguish between those, as we discussed in the past few days, and be able to say, "These are the sorts of things I can do to preserve my items, these are the steps I can take, I now have the rights to undertake those things."

SC: I think it's going to become very much more important because digitization is going to make kinds of access possible that weren't possible earlier - in terms of the physical realm of using the Internet, or just being able to upload files to provide access to a big range of remote users. Monitoring the rights there becomes very much more important because we were all set up to deal with the walk-in user, but we were not set up to deal with the remote user, so I think that's where the rights will be very important. The other thing is also exchange of material: as geographic boundaries will just vanish with digitization, the fact that we will then have to have some standards so that we can move material around and access it from different places, so we're going to have to look at a whole lot of new standards then.

KB: A whole lot of exchange standards - standards to share, standards to make things available - everything from exchange of data to the formats the items turn up in. You need all that information so you can map it against whatever the exchange standard is. So it's important

to keep comprehensive information so you can generate the special sets people use. And I think it's important for us to find a way of exchanging the files and formats that we all agree on!

But it's still not as important as making sure we have a reliable format for preserving the item, because once we've got a reliable preservation format, we can convert it into anything we like. We can go and buy a bit of cheap software that can convert it into whatever exchange format we like. We can say, "mp3 is a great format this week for downloading files," and so we run our batch processor across the system to produce our mp3s. Hopefully, we have built it so cleverly that we inherit metadata as part of the process, and it becomes a fairly simple process to generate as mp3s. But if next week we say, "No, that's a poor way to provide access, and this really good format has come into place and the rest of the world is using it....", so we convert to that. We are quite flexible - digital gives us the flexibility - provided we have something stable to base it on and it's a full, uncompressed preservation format, where we can react flexibly to the sorts of delivery systems we need as required.

SC: So, standardization, it seems to me, will be critical for metadata because that's not going to be so easy to convert with a little bit of software. It's very tempting for every institution to set up its own metadata, depending on what they've got already and what they're doing. This can get very idiosyncratic. And I think that's where we are probably going to have to look at standards.

KB: We've got to avoid the idiosyncratic - that is very important. We probably need to do more than map a "one to one" standard because, as in the case of the National Library, we are providing information for a number of user communities with different preservation or different metadata standards, and different needs. We need a system that maps those and is not in any way idiosyncratic, so that we can retrieve the information needed. We won't necessarily have just one metadata - we won't just have OCLC/RLG preservation metadata version 2.2 or whatever it is. We'll be able to respond to a range of those, if we've done it the right way, not in an idiosyncratic way. Then we should be able quite automatically to generate the appropriate sets of metadata as required.

SC: One last question - on video. None of us are talking about digitizing video at this point, because things seem very uncertain. And yet we're all receiving digital videos coming in from the field. What do you advise as a kind of transit strategy?

KB: I can't advise at all. It's very much a watching brief at the moment. We're all looking for full, linear, digital video storage formats, some of which are now coming onto the market. But none of us, at least none of us in the "real world" as opposed to the very rich world, can afford the storage for those formats. So, at the moment we either wait till we can afford the storage we need, or we make compromises about the format. Costs of storage continue to drop, and it becomes more affordable each year.

We have in our collection a number of half-inch domestic type video materials that are being generated by various researchers and users, it seems entirely inappropriate to apply the same standards to them as you would to a 70 mm film, or a broadcast video, or something along those lines. So we need to find something that takes account of the lower quality we have without losing what we have. We need a process that allows us to convert without taking away any of the quality we have, but doesn't go and encode the air that surrounds it - the things we've never recorded on the tape. That's why I said, at the moment I do not have an answer for video, I wish I did. I have a committee here in the Library that was going to look into it, but so far we haven't really had many things to look into. We are watching to see what

the (Vienna) *Phonogrammarchiv* has done with their material, what some of the broadcasting industry type people are doing with theirs, and how widely accepted Material Exchange Format (MXF) will become. I suspect we may have to deal with the devil more with the digital materials - as in getting involved in different sorts of compressed format to allow us to manage our digital video materials - but how we do that in a reliable, archival way just now, I don't know.

SC: Well, one thing I didn't ask you about is storage media for audio .wav files that we talked about. As you know, storage systems, although they are getting cheaper, are still very expensive, when we talk about the size of files that we'll be generating. What do you advise as an interim measure? A lot of us want to use CDs, which, we are told, are not good preservation media.

KB: I think you can use CDs, if you put the right procedures in place to manage the risk. CDs are a risk, there's no doubt about that, but it's a risk that can be managed by doing the right kind of testing and checking at the time these are created - ensuring that what you've encoded is an accurate record of what you intended it to be; doing error measurements to see whether the disc was written reliably and has a very low error rate; choosing reasonably stable discs - that's difficult; measuring the things frequently, and being ready to upload them at the first possible opportunity. ...

SC: ...and storing them right. There was a kind of myth that CDs were indestructible and we could forget about temperature and humidity control; but I think we're going to have to be very careful with direct sunlight, light and so on, just as we did with magnetic media.

KB: We store our CDs at the same temperature at which we store our tapes. We could, in fact, go to colder temperature, I expect, because we don't have the same issues associated with tape. So we could gain some benefits from lower temperatures, but I don't know that for certain just yet. But we certainly store them at low temperature, low humidity, darkened environment, on a shelf, we don't expose them to light, we don't expose them to pollutants - in the same way as we would look after tapes. Storage, however, is only a small part of the issues associated with recordable optical discs. Any use of them for archival or preservation purposes requires a whole range of checking and storage procedures. If you can't afford a CD tester, you can't afford to use CDs.^[3]

SC: So, then, when you have some kind of storage system in place, it's still time-wise effective to transfer CDs rather than delay your digitization process, waiting for storage.

KB: We don't really have the luxury of delaying the digitization process, for all the reasons we have talked about - chemical degradation of the item, format obsolescence - or we could sit around forever waiting for the perfect solution to come along. By the time that comes we probably won't even have a collection to preserve. I'm increasingly dubious of there ever being a perfect solution! So, what we need to do is do what we can, with the systems we have, in order to ensure that the material we have survives to the next range of technologies we have to deal with.

³ Kevin Bradley is currently (2005) involved with drawing together the advice of the IASA technical committee on use of optical media as storage media for the UNESCO Memory of the World Project.

Berliner Phonogramm-Archiv Historische Klangdokumente/ Historical Sound Documents / Documentos sonoro-históricos

BphA-WA 1 – Walzenaufnahmen japanischer Musik / Wax Cylinder Recordings of Japanese Music (1901-1913).

96-page booklet.

BphA-WA 2 – Walzenaufnahmen aus Peru / Grabaciones en cilindros del Perú (1910-1925).

80-page booklet.

Initial Series Editor: Artur Simon

Present Series Editor: Susanne Ziegler

Review by Judith Gray, American Folklife Center, Library of Congress, Washington DC.

The first two CD compilations of historic cylinder recordings drawn from the Berlin Phonogramm-Archiv feature Japanese music taken from three collections made both in Berlin and in Japan (51 minutes), and Peruvian music recorded over an extended period by a single collector (34 minutes). Variety and continuity are thus featured simultaneously in these 2003 publications. As the initial series editor, Artur Simon, proclaimed, the goal was “Wieder-Erklingen der musikalischen Vergangenheit!” (“Re-sounding the musical past!”).

The CDs are accompanied by extensive notes that contextualize both the series and the specific recordings. In compilation 1 (Japan), Artur Simon briefly summarizes the history of the Phonogramm-Archiv collections, their scattering during World War II, and the ultimate return of the recordings to the Ethnomusicological Department of the Museum für Völkerkunde in Berlin on 16 January 1991. In both compilations, Susanne Ziegler describes the cylinder restoration, preservation, and publication projects, both past and current. Audio engineer Albrecht Wiedmann describes the specific transferring apparatus developed by Franz Lechleitner (Vienna Phonogrammarchiv) that was used, as well as the digitizing (44.1 kHz/16 bit) and editing techniques (steep-sloped high-pass filtering) employed.

Ziegler’s and Wiedmann’s comments both emphasise the selections and the compromises needed. Since many of the cylinders were not restorable (mold, breakage, etc), only some cylinders from each collection could be published. And while it proved relatively simple to minimize certain extraneous noises, the fact is that background noise covers the audio programme on most of the cylinders and, to make matters more difficult, “is never consistent.” So the sound editing is, of necessity, “a compromise, which we hope the listener will accept.” The series is, of course, intended for a “scientific” audience – academic researchers and informed listeners, those interested in the subject matter, or the technical aspects of cylinder transfer, who will not be deterred by the realities of cylinder-derived sound.

The notes and commentaries for each CD are in two languages: German and the language of the collection region, or of the collectors. CD 1 is in German and English; CD 2 is in German and Spanish.

The contents of each CD were chosen and described by subject specialists. Dr Ingrid Fritsch (East Asia Seminar, University of Köln) chose 25 titles from 66 cylinders in three of the five Japanese music collections in the Phonogramm-Archiv. The Archiv Japan I collection of 1901 (recorded by Otto Abraham and Erich von Hornbostel) and the Archiv Japan II collection of 1909 (recorded by Erich Fischer) were made in Berlin, while the Erwin Walter and Heinrich Werkmeister cylinders from 1911-1913 were recorded in Japan. [Another publication using recordings from the other two Phonogramm-Archiv Japanese collections is expected.]

On page 67 of the notes, Fritsch explains that the documentation in the Phonogramm-Archiv for the Japanese cylinders is minimal. While searches for contemporary reports and secondary information provided some help, she concludes that "it remains the task of others to fill in the gaps." Archivists and librarians around the world will recognize the acknowledgment that a balance is always needed between searching for and providing sufficient context to enable further research, while not doing all of a researcher's work.

One interesting editorial decision made on this CD (see p. 74) is to combine cylinders on a soundtrack in instances where the musical genre extends beyond the typical two-minute duration of early cylinders. Thus the first track on the CD [6:24] consists of three cylinders containing music for dances from the second act of *The Geisha and the Knight*. While the listener can tell where one cylinder ends and the next begins, the listening experience is thus closer to that of an uninterrupted live performance than one usually experiences when listening to cylinders. Fritsch's notes explicate the whole composition or genre, then point out what portion is actually heard on the cylinders.

Pages 38-52 of the notes consist of musical examples first published by Abraham and Hornbostel in 1903 as printed in the 1922 edition of their article *Studien über das Tonsystem und die Musik der Japaner*. (As apparent from the numbering, the musical notation follows the sequence of the recordings on cuts 1-6 rather than the numerical sequence of the authors in the article.) Following are photos and illustrations of Japanese performers of the period, including the famous Sada Yacco, whose voice is almost certainly what was preserved on cut 4 of the CD.

Twenty cylinders recorded by Hans Heinrich Brüning in Peru are featured on the second CD. Virginia Yep, whose Ph D dissertation was on the instrumental music of northern Peru (Freie Universität, Berlin, 2001), provides commentaries for the specific recordings, while Bernd Schmelz (Ressorleiter der Sammlungen, Museum für Völkerkunde Hamburg) gives the overall history of Brüning and his documentary efforts in north-western Peru. The Peruvian CD project is a wonderful example of institutional co-operation. The recordings in Berlin are joined here with Brüning's photographs and notes found in the Museum für Völkerkunde in Hamburg.

In her introduction, Susanne Ziegler notes that Brüning's collection is noteworthy both for the richness of the Brüning's accompanying photos and documents, and for its good recording technique and consequent audio quality when compared with other collections of the time. The CD is, indeed, a pleasure to hear.

Hans Heinrich Brüning (1848-1928) – known as Don Enrique Brüning in Peru – was born in northern Germany and studied mechanical engineering, maths, and drafting at the Hannover Technischen Hochschule. In 1875, he travelled to Peru, where he subsequently lived almost continuously until 1925, serving as manager on two haciendas. After 1902 he undertook trips to various parts of Peru and began collecting archaeological artefacts, which ultimately formed the basis of the Museo Brüning in Lambayeque, founded in 1921. His interest in Peru's original peoples led him to live from 1906 to 1910 in Eten, where he documented the Mochica (Muchik) religious festivals and traditional culture.

Half of the cylinder recordings on this CD were made in Eten between March and May 1910. The others, where identified, were made in Lambayeque in 1911 and 1923-24. Among the specific genres included are marchas, marineras, serranitas, a triste, and a tondero. Yep provides a description of these musical forms, and of the instruments featured: the cajita and caja (drums), flute, chirimia (oboe), gaita (double-flute), and quena (end-blown flute). Only

one track, a prayer song, is a vocal. The relative absence of song was a phenomenon that caught Brüning's attention, so this recording may be significant for that reason, albeit quite noisy. Yep cautions the listener, however, against making too many assumptions based on a small collection about how representative Brüning's recordings may be in covering the whole musical spectrum of that time and place (pp. 15-16).

The commentaries in the booklet are complemented by Yep's partial transcriptions of tracks 4-10, 12, and 20, and by two photos of Brüning himself and seven photos taken by him between 1895 and 1916.

There are richly-contextualized treasures on these CDs for academic researchers (perhaps particularly for ethnomusicologists, area studies specialists, cultural anthropologists) and for all of us who are interested in the history of sound recording. We welcome these examples from the UNESCO-recognized Berlin Phonogramm-Archiv and look forward to any future releases.

Response from the IASA Executive Board to the Open Letter from George Brock-Nannestad, Historical Audio Consultant, Denmark (IASA Journal no 24, December 2004)

Kurt Deggeler, President, on behalf of the IASA Executive Board, 31 March 2005

First of all we would like to thank you for your engagement with the development of our association. We wish that more members would exhibit this thoughtful and positive attitude to the challenges we face. The Executive Board is, as its name says, a body to carry out what the membership decides to do.

The problem you are focusing on, mainly the change of the basic assumptions of our profession caused by the technical changes of the last 10 years, has been one of the main topics in our conference programmes and publications (TC 03, TC 04, task team for selection). It is a fact that most of our papers and publications deal with the practical effects of these changes. The philosophical underpinning of our work has been developed further by Ray Edmondson in the second edition of his *Philosophy*.

You are proposing amendment of the IASA Constitution. The IASA Board is not fundamentally opposed to this proposal. However, it considers this to be a process that needs a large basis of understanding and support within the membership, if it is to have any effect on the daily life of the association. Otherwise, in the worst case, it would simply be refused in the postal ballot.

The Board would like to remind you, and the membership, that the last important change in the Constitution was that of the name of our association from "Sound Archives" to "Sound and Audiovisual Archives". This change was preceded by a major debate that lasted for several years. It is questionable whether this change of name has so far significantly changed the agenda of our association.

Therefore, in the board's opinion there must be an inclusive debate on the best way of adapting the association to the new technical situation. This debate should begin in the committees and sections where the proposal can be examined in the context of the main activities and competences of our association. The board will therefore ask the committee chairs to put this item on their agendas, and in the newly created Exchange Forum we will collect the feedback, take it back to the new board, and decide how to follow up. We think this is a more efficient way of initiating the discussion than a one day workshop during the annual conference, which would be held parallel to the regular programme and therefore could not reach a sufficiently large and representative part of the members.

Response to IASA Executive Board
George Brock-Nannestad

First published on the IASALIST, 18 April 2005

The following will be written as a commentary or synthetic dialogue, because my experience has shown that this best preserves the various thoughts expressed.

Above all, I thank the executive board for having taken my thoughts into consideration. The response obviously reflects that the executive board has acquainted itself with the content of my detailed proposal for a day of workshops, transmitted to the programme committee for the 2005 conference.

Dear George Brock-Nannestad

First of all we would like to thank you for your engagement with the development of our association. We wish that more members would exhibit this thoughtful and positive attitude to the challenges we face. The executive board is, as its name says, a body to carry out what the membership decides to do.

----- The initiatives of the board obviously reflect the rôle it sees for itself and for IASA. In modern management phraseology - to which at least our funding bodies are forced to subscribe - the terms "push", "pull" and "being proactive" are frequently encountered. I think that maybe the board at present considers it the best strategy to observe development before deciding on a course of action.

The problem you are focusing on, mainly the change of the basic assumptions of our profession caused by the technical changes of the last 10 years, has been one of the main topics in our conference programmes and publications (TC 03, TC 04, task team on selection). It is a fact that most of our papers and publications deal with the practical effects of these changes. The philosophical underpinning of our work was developed further by Ray Edmondson in the second edition of his Philosophy.

----- a philosophy is not much use if it is not followed up by action, in particular if the philosophy does not in itself extrapolate scenarios for the future.

You are proposing to amend the IASA Constitution. The IASA Board is not fundamentally opposed to this proposal. However, it considers this to be a process that needs a large basis of understanding and support within the membership, if it is to have any effect on the daily life of the association. Otherwise, in the worst case, it would simply be refused in the postal ballot.

----- the proposed change was judged necessary, because it is my firm belief that it would not be possible to discuss ethics of sound and audiovisual archiving, if the archiving community were not aware of, and agreed on, the content of archives and the degree to which this content should/must be made accessible to the users in the future.

The board would like to remind you, and the membership, that the last important change in the constitution was that of the name of our association from "Sound Archives" to "Sound and Audiovisual Archives". This change was preceded by a major debate that lasted for several years. It is questionable whether this change of name has so far significantly changed the agenda of our association.

----- I totally agree with you, however changes hopefully come from within, in response to pressures from outside. Have the pressures been insufficient? Except for political placement on the scene of international archiving, what was the purpose of the change in "responsibility" of IASA?

Therefore, in the board's opinion, there must be an inclusive debate on the best way of adapting the association to the new technical situation. This debate should begin in the committees and sections where the proposal can be examined in the context of the main activities and competences of our association. The board will therefore ask the committee chairs to put this item on their agendas, and in the newly created exchange forum we will collect the feedback, take it back to the new board, and decide how to follow up. We think this is a more efficient way of initiating the discussion than a one day workshop during the annual conference, which would be held parallel to the regular programme and therefore could not reach a sufficiently large and representative part of the members.

----- we are in total agreement on the disadvantages of large groups. However, I did not really envisage a parallel workshop, but a whole day in the conference schedule. Also, in my response to the call for papers for this year's conference, apart from a detailed plan for workshops I outlined a number of less intense approaches as my proposals, namely:

- 1) an outline programme for a day of workshops
- 2) a proposal for a less desirable alternative: a day of dedicated lectures
- 3) an advantageous combination of the two
- 4) an abstract for a proposed lecture by me

Alas, to date no response to alternatives 2) - 4) has been forthcoming. I permit myself to quote from the call for papers (4 December 2004):

"Proposals must be accompanied by an abstract of not more than 150 words. The deadline for this first call for papers is January 31st 2005. Contributors will be notified during March of the Programme Committee's decision."

----- However, a smaller group that simultaneously represents key persons would be the executive board complemented by the vice-chairs of committees. I would consider a day of workshops during the next winter board meeting an admirable investment of the board's time, and hereby offer to revise the schedule accordingly, if this meets with the board's approval.

(In contrast to my open letter, this letter was not sent first as signed ordinary mail to the board members)

Alice Moyle (1908 – 2005)

Grace Koch, Native Title Research and Access Officer, AIATSIS, Australia



Alice Moyle, the “grand lady of Australian musicology” and pioneering sound archivist, passed away aged 96 on 9 April 2005.

Alice Marshall Moyle (nee Brown) was born in Bloemfontein, South Africa, on 25 December 1908. As a young child she was deeply impressed by her first encounter with group singing - a full-throated chorus of African women singing out of doors as they worked over tubs of washing. These memories were instrumental in guiding her towards a career in musicology, part of which included a profound commitment to archiving of field recordings.

Her family, who had originally lived in Australia, moved back about 1912. While her father's side of the family excelled in business, she chose to follow the love of music and scholarship from her mother's side, becoming a music teacher and music critic. In 1933 she married John Murray Moyle, a multitalented kindred spirit, who was one of the finest technical journalists in his field and a pioneer in electronics and sound recording. During graduate studies at Sydney University, she found her real passion for research when she heard an anthropology lecture illustrated by some sound recordings of Australian Aboriginal singing from the north of Australia. Part of her Master's degree, from Sydney University in 1957, included analyses of some of those very recordings, and she served as a teaching fellow in the newly-founded music department there.

In 1959 her husband encouraged her to travel to the Northern Territory of Australia to make some of her own recordings, building some recording equipment specially for her. Fortunately, the new Canberra-based Australian Institute of Aboriginal Studies (AIAS) (now the Australian Institute of Aboriginal and Torres Strait Islander Studies or AIATSIS) was established around this time and she, as a founding member, was able to ensure that Aboriginal music became one of its research priorities. In the early to the mid-1960's the Institute provided financial support for her field trips to record Aboriginal music from many areas across the north of Australia. Widowed in 1960, with two daughters, she had to work especially hard, both to establish herself as a serious scholar in the new field of ethnomusicology, and to manage the heavy equipment and arduous field trips. As an AIAS Research Fellow and later Research Officer from 1964 to 1978, she corresponded with many scholars and organisations world wide in an effort to find and to obtain copies of all the known recordings that had been made of Australian Aboriginal music. In the late 1970's she traveled to the British Institute of Recorded Sound and found the wax cylinders made by the Cambridge Expedition to the Torres Strait in 1898, which were the earliest known ethnographic recordings made in Australia.

She was the guiding spirit behind the organisation of the AIAS Recorded Sound Archives, as well as producing many publications, including more than ten LPs of Aboriginal music issued by AIATSIS and by Unesco. She valued her relationships with her Aboriginal teachers and colleagues, ensuring that they were given the recognition they deserved for sharing their knowledge.

Around this time she began studying for a PhD, producing a massive three-volume work that identified and compared musical styles of Aboriginal music in the north of Australia, defining them in terms of the instrumental accompaniments and the textual and melodic characteristics.

Her formal involvement in IASA began when she attended the IASA/IAML conference in Mainz in 1977. The minutes record that 'The Secretary welcomed the attendance of Dr Alice

Moyle (AIAS) as the first Australian delegate to attend the conference since 1974.' Alice described IASA meetings to me as being full of 'highly educated, bright and breezy people' who truly enjoyed their profession. She joined IASA as an individual member around that time, and attended conferences in Salzburg, Cambridge and Budapest. Alice encouraged me to attend my first IASA conference by offering to read a joint paper with me on her innovative method of cataloguing sound recordings, and we presented it together at the meeting in Cambridge, UK, in 1980. Sound archiving issues, such as preservation, access and cataloguing, were important to her and she corresponded with members of the IASA Cataloguing Committee at this time. In 1979, she became involved in establishing an Australian Branch of IASA and edited its newsletter until the organization became the Australian Recorded Sound Association.

Alice was one of the first members of the Society for Ethnomusicology and helped to form an Australian branch of the International Council for Traditional Music (ICTM), which elected her an honorary member. She was president of the Musicological Society of Australia from 1982 to 1983, and held office in the local branch. Ever concerned with the general lack of knowledge of Australian Aboriginal music, she prepared an educational kit, gave numerous radio interviews, and wrote many articles for encyclopaedias and journals. Her interests embraced the documentation of Aboriginal sound instruments, the history of Aboriginal music and dance through film, field recordings, archaeo-musicology, analysis, taxonomy, and the cataloguing and indexing of ethno-musicological material held in the Institute. She mentored and inspired countless students and colleagues. The Alice Moyle Prize is awarded to an outstanding music student at the Australian National University in Canberra every year.

She became a Member of the Order of Australia (General Division) on Australia Day in 1977, was elected Honorary Fellow of the Australian Academy of the Humanities, and received honorary doctorates from the University of Sydney in 1989 and the University of Melbourne in 1995.

Alice was mentor, teacher and friend to me. A consummate diplomat, a most precise scholar, and an elegant lady with a wonderful sense of humour, she met every situation with a marvelous equanimity. At the IASA/IAML conference in Budapest in 1981, she laughed when she described waiting for me in the hotel restaurant savouring a lukewarm cup of tea when, to her amazement, a gypsy violinist kept circling her when she wanted a bit of peace and quiet. We shared many adventures together, not the least of which involved exploring the richness and sophistication of Australian Aboriginal music. AIATSIS is producing a web site in her honour, to be launched later this year.

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