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**C O N S E R V A T I O N L E S S O N S F R O M O T H E R T Y P E S O F
M U S E U M S A N D A U N I V E R S A L D A T A B A S E F O R C O L L E C -
T I O N P R E S E R V A T I O N ***

There is no doubt that the preservation of contemporary art collections involves novel and complex problems unfamiliar to the staff of a traditional fine art museum. Yet none of these problems is novel to the museum world as a whole. Furthermore, the concepts and techniques developed by other types of museum that have long dealt with preservation offer useful tools to museums of contemporary art.

For preservation surveys in all types of museums, a database application is currently being developed at the Canadian Conservation Institute. It accommodates all those problems that appear novel to the preservation of contemporary art collections.

'Material' versus 'knowledge'

Preservation problems fall into two broad categories, reflecting the two worlds philosophers have debated since history began – and will debate forever. In classical terms, it is the objective versus the subjective. In mid-twentieth century post-structuralist terms, where any real separation is considered naive anyway, it is Lyotard's scientific knowledge versus narrative knowledge.¹ In the current rebirth of a common-sense reality that was lost during the post-structuralist heyday, it is Popper's physical states versus objective knowledge, which the eminent English museologist Susan Pearce has used recently to re-examine the artefacts in museum collections.²

Since the term 'objective' has been applied to both sides of the divide, and 'subjective' has varied from personal to impersonal uses, I will use 'material world' and 'knowledge world' as reasonably accurate and ordinary terms.^{3,4} The material world is that which we can reliably deduce as existing independently of human knowledge (and its input device, perception) – chemically changing bits of mixed molecules (ageing, coloured paint in the knowledge world), additional layers of molecules (dirt in the knowledge world) and spaces between clusters of these molecules (cracks in the knowledge world).

Modern 'scientific' conservation in its naive moments claims the purity of the world of materials, and curatorship in its naive moments claims the purity of the world of knowledge – or more precisely, of a very specialised sub-section of that knowledge. Conservation has always found itself shuttling between the two worlds and informing specialists of each world about the concerns of the other, as illustrated by the flow chart in the decision-making model (see page 164). To the post-structuralist this is synchronic discourse, to the technocrat it is flowcharts and feedback loops. In common-sense terms it is the infinitely variable world of human activity that is built from a few ordinary skills – perceiving an object, thinking about that object, talking about that object and acting on that object, alone or with others, with all the impersonal and personal knowledge one may already have or acquired in the process.

Possibly novel material problems

The preservation of contemporary art collections appears to pose some novel material problems:

1. Contemporary art objects are bigger and/or more fragile than traditional art objects

When one moves from a traditional into a contemporary museum, it becomes obvious that the average contemporary art object is bigger, and therefore more costly to house and transport, than the average traditional painting. The traditional museum has experience with a few large art works, but it does not deal with artist after artist pushing the fabrication limits of traditional and non-traditional materials. Often as a result of sheer size, but sometimes simply as a result of delicate used materials like feathers, many contemporary art works are also more fragile than traditional ones. In the last few thousand years, for both sacred and secular purposes, art works were designed to tolerate, even assist, shipment from studio to client. Alternatively, they were constructed as durable components of a building or monument. Now contemporary artists borrow the

techniques of theatre designers, architects of World Expositions and shamans. Unfortunately, while theatre sets, World Expositions and the paraphernalia of the shaman were considered ephemera by their original masters and audience, they are not seen as such by modern artists and their collectors.

Still, architectural conservators do preserve flimsy structures that were never intended to last long. See for example a description of the restoration of a late nineteenth-century building/sculpture in the shape of an elephant, clad in sheet metal and containing within its belly a small museum, both suffering from humidity problems. It is an ironic reversal of the usual museum/art work relationship.⁵ Ethnographic museums routinely preserve elaborate ritualistic artefacts of paint, feathers and bones, and have developed many methods of mounting and housing these items – as the recent and comprehensive *Mount-Making for Museum Objects* shows.⁶ Natural history museums do preserve and display everything, from the gargantuan to the incredibly delicate, and have a journal *Collection Forum* devoted to the theory and technique of collection care. A two-volume handbook of preservation techniques has been published by the extremely active Society for the Preservation of Natural History Collections.⁷

2. Contemporary art objects are more vulnerable to small defects

Small (and inevitable) defects are easily overlooked in traditional art works, but they are not easily overlooked in most contemporary art works. There are two material causes for this. The first originates in the perfect uniformity of manufactured materials compared to traditional ones. Within large areas of glossy paint or new plastic sheeting, a small scratch, loss or accretion is much more noticeable than if it were surrounded by rough texture or complex imagery (visual noise). This difference would be detected by any simple scanning device, not just the human eye. However, I also believe humans use defects in a very powerful way to develop everyday knowledge of their world. We use them as a signature of objects, to recognize one among many, and to recognize change in our material surroundings and thus the passage of time.⁸ Within our profession, these innate abilities blossom into endless debate over 'authentic' and 'patina'. Needless to say, this problem of the noticeable small defect occurs in all museums that collect twentieth-century objects, science and technology museums as well as those of decorative art.

The second aspect to this problem arises from the opposite of manufactured uniformity – manufactured complexity. A single tiny defect in a single electronic component can render a video screen dead, a kinetic sculpture immobile or a computer installation defunct. This is also related to the more general problem of obsolescence.

3. Contemporary art objects are more vulnerable to technological obsolescence

We may lose specific sources of pigments and marble, but we will never lose the ability to directly experience or to restore a traditional art work at reasonable cost. Compare this to a 1980s video installation or computerised art work, for which the parts are obsolete and soon irreplaceable. Without functioning components, the art work becomes a pointless shell. This problem is the pre-eminent fact of life for science and technology museums as well as for archives.

The problem follows the three stages in the history of technology. Artefacts, art works and records produced by pre-industrial crafts can always be restored by individuals simulating the original crafts. Mechanical artefacts, art works and records produced during the machine age, even at its most elaborate, can always be experienced and restored by enough money being invested for painstaking shop work. For example, the first hundred years of sound recordings, based on the mechanics of groove and stylus, can still be played back – independently of the original record players. The most recent playback machine for archives uses lasers to read old records without even touching them. Similarly, replication and restoration options for Tinguely's Gismo, described elsewhere in this publication and a former work by Beerkens are all still feasible.⁹ They may, of course, be expensive to restore and subject to the usual dilemmas over authentic and inauthentic. Replication of prior electronic technology in the electronic age, however, is in an impossible cost category, due to the large variety of formats and the industrial manufacturing complexity of each

record and playback device. The lifetime of these objects will depend on a complete stockpile of spare parts.

Archives address this issue through 'migration' of their records to newer formats and abandonment of the original record. The Tate Gallery has chosen this same approach for their video collection, as Laurensen states (see page 263). Unlike the descriptions in the archive literature, where massive numbers and costs are overriding elements, the Tate expressed strong concern that the transcription process did not distort the aesthetic or texture of the original record. This is a luxury possible only for small 'art' collections and dependent on individuals with highly specialised technical knowledge.

I know of no systematic museum response to this problem, despite its prevalence. Part of the solution, obviously, is the emulation of mass market systems such as the parts and service infrastructures of any large manufacturer. Museums will need to stockpile parts and service manuals beyond the normal mass market lifetime. They could follow the lessons of other historic specialty markets such as car restoration, for which old parts and service manuals are exchanged or re-manufactured within small global networks. Even here, however, only sub-groups of objects – Ford Model T's, Volkswagen Beetles – support a manufacturer's response to the need, and only mechanical parts are replicated. Cooperative networks or consortiums between museums of contemporary art and those of science and technology will be essential if even a few technological art works are to achieve a life span anywhere near that of a traditional piece. Unfortunately, if the much larger collections of science and technology are any indication, it is far more likely that museums will abandon any such aspirations and learn to live instead with mute, lifeless shells of artefacts, augmented by audio-visual records or simulations. They will leave the active maintenance of historic machines to the private sector, where operation of the machine takes precedence over all ethical niceties of the museum world. If conservators of industrial collections have learned anything in the recent past, it is the importance of bridging this gap, of informing the private sector of methods and strategies that produce a functioning object with the least collateral damage.

4. Contemporary art objects are novel in their use of motion and sound

Movement in kinetic sculptures is just a special form of display. The issue of wear and tear, how much to operate the art work each year, is identical in principle to the issue of light exposure of traditional art works, or the risk assessment of letting them be transported or of hanging them unprotected in front of the public. All art works are being 'used up' as material objects, either in slow cumulative fashion or in intermittent events.

Specific maintenance and operating issues of moving machines are well-known in the world of science and technology museums, transportation museums, agricultural museums, etcetera. The difference in attitude between commercial art galleries and art museums is not unlike the difference in attitude between machinery restoration clubs and machinery museums. Each defends its notion of 'meaningful' use of objects. The dilemma of performance versus preservation, dynamic versus static, has always been central to musical instrument collections as well. Since high monetary and mystical value can accrue to musical instruments, codes of ethics and collection guidelines have been developed that provide useful comparisons for contemporary art collections. See the ethical and practical guidelines in the recent publication by Barclay, *The Care of Historic Musical Instruments*.¹⁰

5. Contemporary art objects are more likely to suffer rapid chemical decay

Some important modern materials degrade much more rapidly than traditional ones, usually due to internal acid hydrolysis. These cause either directly perceived changes such as the yellowing, cracking and disintegration of plastic art works and paper collage, or indirectly perceived changes such as the loss of information in movie films, magnetic audio tapes and magnetic digital media. Of course, these problems are again very familiar to archives.

I have recently reviewed literature on the only way to preserve the original of such materials for any significant length of time: low humidity or low temperature control.¹¹ The literature on conservation of audio-visual and electronic media is extensive, see for example *Archiving the Audio-Visual*

Heritage and Environnement et conservation de l'écrit, de l'image et du son.^{12, 13} The literature on 'plastic' conservation is rapidly expanding, see for example *Saving the Twentieth century: The Conservation of Modern Materials* or the excellent 'An Introduction to Plastics and Rubbers in Conservation' by Sharon Blank in *Studies in Conservation* (1990).^{14, 15}

Novel knowledge problems

The preservation of contemporary art collections may also pose some novel knowledge problems:

1. Contemporary art works are more vulnerable to loss of impersonal narrative knowledge

By impersonal narrative knowledge the post-structuralist means social, cultural and moral knowledge, all that is created and shared by the community and learned in various degrees by each individual.^{16, 17} In ordinary parlance it is referred to as cultural context. Will a viewer (or conservator) of a Pop art piece ever fully understand the piece in the manner of a knowledgeable New Yorker of the time? Does it matter? Etcetera, etcetera.

Three forms of origin can be lost or changed for an art work (or any made artefact): the time of birth, the place of birth and the community of birth.¹⁸ Loss of the time of birth, in the sense that one loses all the fashions and details peculiar to the time of birth, is simply time's inevitable arrow. It is lamentable only inasmuch as we deny our own mortality, or the authenticity of the present. Contemporary art collections will lose their hold on the word contemporary. Their keepers would do well to read Lowenthal's *The Past is a Foreign Country*, which strongly influenced history museums over a decade ago.¹⁹

Loss of the place and community of birth is not inevitable. It usually takes an act of theft, a rupture with original meaning. Ethnographic artefacts face such rupture by definition – they are the collections of displaced objects. This fact has generated a body of literature containing everything from diatribes on the thieving imperialist European male aesthetes who created these collections, to subtle dilemmas over repatriation by communities that are fighting attempts by some representatives to typecast themselves as their older, outdated versions. For a starting point in this literature, see *Cannibal Tours and Glass Boxes: The Anthropology of Museums* by Ames.²⁰ Of course, even the so-called European canon of traditional 'fine' art is itself displaced from its authentic homes within the church and the aristocracy. The gulf between our response to a great painting of Christian themes and the response of its contemporaries is well-worked ground in art history. At least for Europeans and their offspring, however, these were not ruptured from their general place and general community of birth.

The claim to special problems in this area by contemporary art can be reduced to little more than the normal conceit of the present. True, it is magnified by the preciousness assigned by a powerful consumer culture to its most mysterious and expensive consumer items. True, it is compounded by the contemporary artist's attempt to transcend the traditional art work. But, compared to the rupture of 'ethnographic' art works from their community and place, it is not a problem of loss at all – it is the opposite. It is a problem of the density of knowledge of our own time, our own place and our own community that confuses us. Of course it will generate difficult decisions for conservators, but the difficulty will be multiple and conflicting strands of knowledge, of balance, not the silence of theft, of lost voices, oblivion. I do not believe these decisions require any intellectual tools not already developed for traditional preservation dilemmas.

2. Contemporary art works are more vulnerable to loss of personal narrative knowledge

This is not novel to contemporary art collections either, but of course it is novel to the present. The fact of 'living memory' creates legal and professional obligations to transfer valuable personal knowledge to impersonal forms, just as it did for Vasari. Thus staff at contemporary art museums have developed various strategies for collecting associated information on artist techniques and intention. This is a problem of bureaucracy and resources – all museums that actively collect new objects do the same. For each new acquisition, the large systematic collections of natural history museums and electronic archives routinely collect associated information along with intended sig-

nificance, without which the objects become meaningless or literally 'unreadable'. Each work then becomes a material package of object and records which needs preservation.

As for viewers, it is inevitable that this generation will pass and take all their emotional and personal knowledge with them. Two types of museum face this on a much more profound and emotional level – war museums and memorial museums such as those dedicated to the Holocaust. All these must face the transition between an audience with direct personal knowledge, their descendants who heard direct personal knowledge, and eventually an audience with only impersonal knowledge.

A database for collection preservation surveys

Development of a computerised database, especially one for expert advice and risk assessment, forces a profession to clarify its concepts and define its terminology to a degree unnecessary for normal human discussion. The risk, of course, is a reductionist model incapable of dealing with real problems. If one can avoid that trap, the benefit is much greater effectiveness for those few individuals our culture assigns to care for its collections.

I am currently developing a database package for preservation surveys. It combines the traditional concerns of conservation and preventive conservation surveys – facilities observations, staff questionnaires on policy and procedures, and collection observations – but it will eventually perform risk assessment calculations based on both the survey and a large amount of hidden data previously entered, such as all the natural disaster risks mapped by locality and elevation. On entering a collection room, the surveyor groups artefacts by type and enters this type by selecting from a comprehensive list built into the survey. Within the hidden tables of the database, this selected type has already had various common material vulnerabilities attached to it – for example, woollen textile is particularly vulnerable to insects, ornate wooden furniture to humidity fluctuations, Colour Field paintings to light and handling, video art to chemical decay and technological obsolescence. Each of these factors will then influence the risk assessment – the effect of too much light, poor security, warm temperatures or lack of a spare-parts programme, etcetera. This entry will help determine which artefact groups are given priority in the recommendations.

This is the hidden expert part of the database. Each of these hidden parts can, of course, be modified by a user if they disagree with the default estimates. Beyond the built-in assumptions of vulnerability, the survey also permits entry of atypical vulnerability – more light sensitive than usual for a Colour Field painting, more chemically unstable than usual for a video record. The surveyor is also asked to estimate, where possible, the time it will take for significant damage to occur in the present situation.

Thus the database addresses material problems in preservation at two levels, both dependent on expert knowledge input. The first is generic, built-in; the second is at the surveyor level, the level of direct perception and deductive intelligence.

The concrete issues associated with knowledge preservation – associated records, repair manuals – will be built-in. Thus selection of the term 'kinetic sculpture' could automatically trigger relevant questions on such issues. Or it will simply be linked to the staff interview question on collections policies, for instance on spare parts (which would only be triggered by certain types of museums such as those of contemporary art).

In the current version of the database, the many intangible knowledge issues have been reduced to a simple question about artefact 'value', entered as a rank order from one to five or as an optional monetary value. The purpose, after all, is not to explain everything but to estimate the priorities of various artefacts and their preservation details. There is also a text field for further commentary. As these accumulate, popular entries will be assigned to a built-in list along with any commonly accepted implications. Thus the database is designed to learn new issues from users, and reflect them in revised versions.

When I was asked to write a paper for the conference *Modern Art: Who Cares?*, I was in the process of developing the prototype of the preventive conservation database for an historic museum application. A systematic deduction of all the issues that could arise in a contemporary art collection

appeared to generate many novel issues, but every issue eventually resonated with some prior experience of mine with either a natural history museum, archive, science and technology museum, ethnographic museum, commercial gallery, or with some part of their respective literature on preventive conservation. As for the post-structuralist/post-modern dilemmas of contemporary art and its more literate avant-garde, these resonate with much of the last decade of museology – exemplified by the books edited or written by Pearce or her colleagues at Leicester University, or the angst of thoughtful material culture curators everywhere.^{21, 22, 23, 24}

We collect things. Old things just get older, but new things must first lose their newness. We cannot prevent that. All we can do for the recently new, we have learned already from the old.

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3 S. Michalski, 'Sharing Responsibility For Conservation Decisions', in: W.E. Krumbein, P. Brimblecombe, D.E. Cosgrove and S. Staniforth (eds.), *Durability and Change – The Science, Responsibility, and Cost of Sustaining Cultural Heritage*, John Wiley and Sons, Chichester, 1994.

4 S. Michalski, 'A Systematic Approach to Preservation: Description and Integration with Other Museum Activities', in: A. Roy and P. Smith (eds.), *Preventive Conservation Practice, Theory, and Research*, International Institute for Conservation of Historic and Artistic Works, London, 1994, pp. 8-11.

5 M. Westfield, R.I. Ortega and E.A. Conrad, 'What Made Lucy Rot', in: *Journal of Preservation Technology*, vol. 27, No.3, 1996, pp. 31-36.

6 R. Barclay, A. Bergeron and C. Dignard, *Mount-Making for Museum Objects (in English)/Supports pour objets de musée: de la conception à la fabrication(en français)*, Canadian Conservation Institute, Ottawa, and Centre de conservation du Québec, Quebec, 1998.

7 C.L. Rose, C.A. Hawks and H.H. Genoways (eds.), *Storage of Natural History Specimens, Volume I: A Preventive Conservation Approach*, Society for the Preservation of Natural History Specimens, Pittsburgh, USA, 1995. Available from Julia Golden, Dept. of Geology, University of Iowa, Iowa City, Iowa, 52242-1379, USA;

C.L. Rose and A.R. de Torres, *Storage of Natural History Specimens, Volume II: Ideas and Practical Solutions*, Society for the Preservation of Natural History Specimens, Pittsburgh, USA, 1995.

8 See note 3.

9 L. Beerkens, 'The Biography of a Machine: Problems with the Conservation of Jean Tinguely's Gismo',

in: *Conservation of Modern Art project*, Foundation for the Conservation of Modern Art, Amsterdam, 1996, pp. 13-19.

10 R.L. Barclay (ed.), *The Care of Historic Musical Instruments*, Canadian Conservation Institute, Ottawa; Museums and Galleries Commission UK; and ICOM International Committee of Musical Instrument Museums and Collections, 1998. Available from CCI, 1030 Innes Rd., Ottawa, K1A 0M5, Canada.

11 S. Michalski, *Guidelines for Humidity and Temperature in Canadian Archives*, Canadian Council of Archives, Ottawa, 1998.

12 G. Boston (ed.), *Archiving the Audio-Visual Heritage*, Canadian Museum of Civilization, Ottawa, 1990.

13 ARSAG, *Environnement et conservation de l'écrit, de l'image et du son*, Association pour la recherche scientifique sur les arts graphiques, Paris, 1994.

14 D.W. Grattan (ed.), *Saving the Twentieth Century: The Conservation of Modern Materials*, Canadian Conservation Institute, Ottawa, 1993.

15 S. Blank, 'An Introduction to Plastics and Rubbers in Conservation', in: *Studies in Conservation*, vol. 35, 1990, p. 53.

16 See note 1.

17 See note 3.

18 Ibid.

19 D. Lowenthal, *The Past is a Foreign Country*, Cambridge University Press, 1985.

- 20 Michael MacLean Ames, *Cannibal Tours and Glass Boxes: The Anthropology of Museums*, UBC Press, Vancouver, 1992.
- 21 S. Pearce (ed.), *Museum Studies in Material Culture*, Leicester University Press, 1989.
- 22 S. Pearce (ed.), *Objects of Knowledge*, Athlone Press, London, 1990.
- 23 S. Pearce, *On Collecting – An Investigation Into Collecting in the European Tradition*, Routledge, London, 1995.
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