

A Decision-making Protocol for the Use of Historic Musical Instruments

R.L. Barclay

Journal of the Canadian Association for Conservation (J. CAC), Volume 29
© Canadian Association for Conservation, 2005

This article: © Canadian Conservation Institute (http://www.cci-icc.gc.ca/copyright_e.aspx) of the Department of Canadian Heritage, 2005

J.CAC is a peer reviewed journal published annually by the Canadian Association for Conservation of Cultural Property (CAC), PO Box 87028, 332 Bank Street, Ottawa, Ontario K2P 1X0, Canada; Tel.: (613) 231-3977; Fax: (613) 231-4406; E-mail: coordinator@cac-accr.com; Web site: <http://www.cac-accr.ca>.

The views expressed in this publication are those of the individual authors, and are not necessarily those of the editors or of CAC.

Journal de l'Association canadienne pour la conservation et la restauration (J. ACCR), Volume 29
© l'Association canadienne pour la conservation et la restauration, 2005

Cet article : © Institut canadien de conservation (http://www.cci-icc.gc.ca/copyright_f.aspx), Ministère du Patrimoine canadien, 2005

Le *J.ACCR* est un journal révisé par des pairs qui est publié annuellement par l'Association canadienne pour la conservation et la restauration des biens culturels (ACCR), BP 87028, 332, rue Bank, Ottawa (Ontario) K2P 1X0, Canada; Téléphone : (613) 231-3977; Télécopieur : (613) 231-4406; Adresse électronique : coordinator@cac-accr.com; Site Web : <http://www.cac-accr.ca>.

Les opinions exprimées dans la présente publication sont celles des auteurs et ne reflètent pas nécessairement celles de la rédaction ou de l'ACCR.

A Decision-making Protocol for the Use of Historic Musical Instruments

R.L. Barclay

Canadian Conservation Institute, Department of Canadian Heritage, 1030 Innes Road, Ottawa, Ontario K1A 0M5, Canada; bob_barclay@pch.gc.ca

The issue of the categorization of working museum objects is raised, and a prototype decision-making protocol for historic musical instruments is described. A rating system is demonstrated that assigns numerical values to instruments according to the criteria of rarity, risk and state. Examples are provided that could be used to interpret the final numerical scores. Some advantages and drawbacks of the prototype are discussed. It is emphasised that this is a prototype only, and that refinement to suit individual applications would be essential.

Cet article traite de la catégorisation des objets fonctionnels muséologiques et décrit un modèle de protocole pour la prise de décisions concernant les instruments de musique anciens. Un système d'évaluation permet d'attribuer des valeurs numériques aux instruments de musique selon les critères de rareté, risque et état. Des exemples aident à interpréter les résultats finals. Quelques avantages et désavantages du modèle sont décrits. On souligne qu'il ne s'agit que d'un modèle et que des améliorations adaptées aux besoins individuels sont essentielles.

Manuscript received May 2003; revised manuscript received September 2003

Introduction

The author has been asked on several occasions to help make decisions on the playing potential of historic musical instruments. Of all the artifacts preserved in museum collections it seems that musical instruments incur the most hard feelings if they are kept silent. Death, decay, dust and disuse are among the derogatory terms used to describe the instrument residing in 'a temple of silence, its musical function forgotten.'¹ No matter how well cared-for the instrument may be, no matter how closely the relative humidity and lighting are attended to, it is deemed neglected if it is not permitted to play music. It is true that a policy of silence applied across the board would result in a very sterile museum experience, but we can be thankful that this is rarely the case, despite opinions to the contrary.²

The demand, not just for playability, but for justifying its intensity, duration and potential cessation, resulted in the formulation of a decision-making protocol for historic instruments, which has met with some success. The instruments of the Bate Collection at the Faculty of Music, Oxford University are required, by the terms of their donation, to be played, and the protocol described here, in an adapted form, was pioneered on them.³ It was also introduced in a presentation for the Section française of the IIC in 2000 where it received some positive reaction.⁴ It must be emphasised that this is a model, and that it is being presented here for discussion, and not as a *fait accompli*. While it has shown itself to be fairly versatile (with modifications) for assessing or categorizing a collection of musical instruments, it is untested for other artifacts.

Making Artifacts Work

There is little debate among the private owners of working artifacts concerning use and preservation.⁵ To a great extent, if an object was intended to be used, then the owner will use it. Use and preservation are synonymous. Objects that were made to be

driven, ridden on, flown, listened to, or interacted with, in innumerable ways, have the power to transport us elsewhere and elsewhere, and we celebrate them for it. To some people it is the sound of air-cooled racing engines and the narcotic aroma of vegetable-based lubricating oils. Others are drawn in by the unforgettable smell of hot steam engines, and the ground-shaking thump of their passage. Early aeroplane enthusiasts revel at the range of sensations that being aloft in an early flying machine can impart, while aficionados of early music take especial delight at the sound and feel of early keyboard instruments or rare Cremona violins. For all these people it is *à la recherche du temps perdu* through the medium of the real, tangible object. The historic object becomes the touchstone to sensations that transcend its material being. To the conservator, those people who enjoy the full spectrum of sensations that the working object can offer are an especial challenge.

As we interact with objects they are subject to wear and damage, and eventually servicing and adjustment are required. We know this from driving our cars every day; if a component fails, then it is replaced with a new one. Gradually our everyday objects become transformed, and the longer we use them, the larger will become their technical and social biographies, and the less of their original fabric will remain. A famous axe is always used to make this point (**Figure 1**). This might be the axe that persuaded George Washington to tell the truth once confronted with the evidence of a ruined cherry tree, or it could be the axe that William the Conqueror carried into battle in 1066, assuming the Normans were using axes at that time (the Saxons were). In view of our focus on Canadian content, it is to be regretted that Louis Riel or Laura Secord, or even Don Messer, didn't do something famous with an axe.

The point of the axe analogy is that the head and the shaft and the wedge that holds one to the other can be replaced, yet the object still remains 'the real thing'. Although always used as a *reductio ad absurdum*, those who wield the axe analogy often

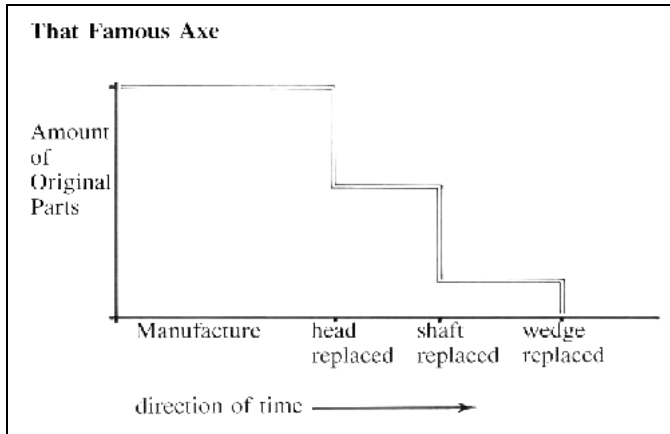


Figure 1. Progressive replacement of worn parts results in transformation over time.

fail to appreciate just how close to reality it can become. The prime example is the Stanley Cup, not one scrap of which dates back to Lord Stanley's original bequest of 1892. The cup itself, the original piece at the top, was becoming so battered with the annual hoisting and boozing that a Montreal silversmith replaced it in 1969. The original resides in the Hockey Hall of Fame in Toronto.

The conservation implications of driving cars, riding steam tractors, flying planes, playing musical instruments and quaffing champagne out of silver cups are, quite obviously, the contribution that servicing makes to their transformation. Each use, each repair, each restoration, makes the original state one state more remote. Couple this with the stated aims of the conservator as laid down in the Code of Ethics for Conservation and one encounters friction:

It is the responsibility of the conservator, acting alone or with others, to strive constantly to maintain a balance between the need of society to use a cultural property, and the preservation of that property.⁶

Should these objects continue to work when they become museum objects, or should we, as conservators, curtail this activity as being detrimental to their long-term safety and stability? Should we be the pragmatic, conservative and cautious guardians of a diminishing heritage, or should there be a romantic measure of aesthetic satisfaction within the museum brought about by the sound and feel of historic objects coming to life? Conservation falls clearly on the side of pragmatism and reason, while use, and all the sensations that it entails, falls on the aesthetic and emotional side. Questions of function and preservation are inevitably subjective, loaded with preference and personal judgement. But two things become clear:

1. decisions on use versus preservation cannot be universally agreed upon and;
2. each historic object makes unique demands.

Categorization of collections in terms of use, accessibility

and other parameters is by no means new to the conservation literature. Natural history collections have lent themselves particularly to systems of ranking,⁷ and technical collections are also categorized in this way. The focus can even shift to the heritage material of whole countries; reacting to a highly negative report on the condition of the national cultural heritage, the Netherlands Ministry of Welfare, Health and Cultural Heritage formulated the Delta Plan for categorizing objects and assigning resources.⁸ Jonathan Ashley-Smith has published an extensive work on risk assessment, discussing mechanisms of deterioration and their probability and rate, and also dealing with cost-benefit analysis and mathematical modelling.⁹ The published papers of a conference at Dahlem University in 2000 summarize the status of rational decision-making in the cultural heritage field.¹⁰

The Protocol

A decision-making protocol is a system for making objective judgements using a set of established criteria. When deciding on whether to use an historic object, and under what conditions, the following are the chief factors that should be considered:

- *Rarity*: how many of these objects are there? Does this one have unique features?
- *Risk*: is the object safe to use? Do we know its condition and fragility?
- *State*: has the object been altered or transformed? What implications does this have upon its function?

Rarity, risk and state can be presented in the form of a matrix where each of the three categories is assigned three values:

	rarity	risk	state
high	unique	high	perfect
medium	general	medium	original
low	common	low	transformed

This chart provides the basis for a decision-making protocol which could be applied to a wide range of historic objects presently in working condition. As this is a model protocol, the contents and descriptions of the categories will need to be adapted to individual situations. The following sections provide some guidelines that amplify the previous description of the three main categories.

Rarity

In this section it is not only essential to understand the place of the object within the collection in which it resides, but also its place worldwide. Extensive research and knowledge of other examples and their state and condition are prerequisites to accurate assessment. Included in rarity is the association of the

artifact with a famous personage or historical circumstance, so that otherwise unremarkable objects might well score high in this category. The three values assigned will allow the assessor to take all this knowledge into account. It is notable that most museum musical instruments (or other comparable artifacts) fall in the general category – they are not easily replaceable, but also, not unique.

Risk

Assessment of artifacts in this section requires an understanding of the risks involved in making them operable based upon *condition*. This requires a very well-founded understanding of deterioration and construction techniques, and highlights the issue of consulting as widely as possible before decisions are taken. Risk assessment is a discipline in its own right and much work has been done on the assessment of museum collections.^{11,12} Obviously, adequate facilities and expertise must be available for examination, documentation and treatment. It is also assumed that competent musicians, familiar with, in this case, the handling and care of historic musical instruments, will be available to play them. When considering the operation of museum objects other than musical instruments there are some tangential issues within the risk category. For example, the use of machines such as vehicles, steam appliances and aircraft is covered by strict laws and regulations, health and safety being primary among these.

The three values of risk assigned to musical instruments will be as accurate as knowledge of the condition of the object can make them. Again, the larger proportion of any collection will fall into the medium category. Examples of this category would include glass flutes with evidence of deterioration, ebonite wind instruments, brass instruments with season cracking, and most wind instruments of ivory.

State

The state of the artifact relates to the amount of change that it may have undergone since manufacture. The terms used in this category *do not* refer to condition. As an illustration, a fully restored Steinway piano of the 1930s, brought back from derelict to showroom *condition*, would be described as transformed and score low when assessed according to its *state*.¹³ It is sometimes assumed that the closer the object is to its original state, the less desirable it will be to operate it. Such an assumption is not always valid, so allowance should be made when formulating the individual categories and their descriptor, as described in more detail below. The assigned values are themselves relatively objective, but subjective judgements can also become a part of this rating.

Decision-making

The assessment of the degree of use sustainable by an historic object can be initiated by an assessment of risk in relation to rarity. In the schematic below an object of unique rarity and at high risk due to poor condition is given a value of 1. It is an

unlikely candidate for use, whereas an object of general rarity, and having the same degree of high risk due to poor condition is assigned a value of 2. It is a likelier candidate for use. The best candidate for use would, according to the schematic below, be of common rarity and safe risk and assigned a value 5.

risk \ rarity	high	medium	low
unique	1	2	3
general	2	3	4
common	3	4	5

Once a numerical value for risk in relation to rarity (1-5) has been derived, the resultant number is then compared with state:

risk/rarity \ state	perfect	original	transformed
1	1	2	3
2	2	3	4
3	3	4	5
4	4	5	6
5	5	6	7

Finally, the numerical value derived from this comparison provides a key to the extent of use an artifact can sustain. By adding “state” to the equation, a rare and high risk object in perfect state is assigned the least usable value 1. The less perfect the state, the more usable the object, i.e. a rare object in original state 2 is less likely to be used than a rare object in a transformed state 3, and more likely to be used than a rare object in its original state 1.

For each individual collection written protocols should be assigned to all numerical values from 1 to 7. The following are some sample texts specifically written for a collection of musical instruments that offer a suggestion for the kind of wording that might be employed:

1. There are no circumstances under which the instrument should be played.
2. The instrument may only be played under exceptional circumstances and for a limited time. It can only be played under close supervision, and after expert assessment of its condition and the potential yield of information gained from its use. The operator must be able to demonstrate a

familiarity with the object. A high quality recording (video, audio, etc.) should be made of the session of use.

3. The same restrictions as above apply, but playing can be for more extended periods. With museum objects it is particularly important to document the process of playing, regardless of the score that the instrument may be assigned.
4. The instrument can be played more frequently, and for longer periods. There is less need to establish the value of information gained, although records of use should be maintained.
5. The same restrictions as above apply, but they can be relaxed at the discretion of the custodian.
6. The instrument may be played unsupervised by people unfamiliar with its capabilities.
7. Instruments assigned this score are durable and of low heritage value. They can be used for didactic purposes in such applications as museum interpretation programmes for the general public. Instruments in displays that the public are permitted to touch and play are typical of this category.

There are three provisos that must be considered when applying a decision-making protocol of this kind:

1. There is a tendency for categorization to become self-fulfilling. An artifact assigned to a certain category within this system will thereafter be treated in a way that characterizes its status. Because a value judgement is made, there is the potential to pay less attention to artifacts that score lower.
2. Artifacts tend to rise through the categories. An object considered replaceable at the present time may not be in the future; due to natural attrition the common becomes less so.
3. Decisions have value at the time they were made. The protocol will become refined as personnel become familiar with it, and thus earlier decisions may not be as well founded as those made later, and might need to be revisited.

In view of these limitations, it is essential that research on the individual instrument be as thorough as possible, and that categorization decisions be reviewed at regular intervals by specialists with expertise in the technical and social histories of the objects under review, and by specialists knowledgeable in their restoration and conservation.

Conclusion

The decision-making protocol described here has been adapted from one produced for a unique situation at a particular time and place. Although it proved useful at that time and place, it became very clear to both the author and the users that its adoption elsewhere would involve considerable re-working. The users

found that it took some significant effort to become comfortable with the prototype. The user comfort level depended, to a large extent, on the nature of the object being assessed and the pressure of demands upon the object. It was also found that the ratings produced corresponded fairly closely with what the operators arrived at by intuition. The protocol was, therefore, found to be of more use in justifying decisions to outsiders than it was in assisting those involved closely with the collection. Where a collection is subject to high demand for use by students, researchers and the general public this aspect of the prototype was found to be extremely useful. In spite of the above limitations, as a prototype this protocol has some value in showing the way in which decisions that normally involve personal assessment can be given a dimension of objectivity.

Notes and References

1. Montagu, Jeremy, "A Clavichord by Hieronymus Hass," *National Art Collections Fund - Annual Review*, 1994, pp. 34-36.
2. Montagu, Jeremy, "Preserving Historical Instruments," *Early Music*, February 1994, p. 189.
3. Barclay, R.L., *Proposal for the Bate Collection*, (Ottawa: Canadian Conservation Institute, 1997). Unpublished Report.
4. Barclay, R.L. "The Restorer and the Conservator: Mediating Approaches," *Instruments pour demain : conservation et restauration des instruments de musique*, 9^{es} journées d'études de la section française de l'Institut international de conservation (SFIIC), Limoges, 15-19 juin 2000, edited by Florence Gétreau, Laurent Espié and Marcel Stefanaggi (Champs-sur-Marne: SFIIC, 2000), pp. 17-26.
5. The author uses the term 'working artifacts' here to distinguish this class of objects from those that do not need to function in order to be fully interpreted or expressed. One can see the clear distinction between a painting and a steam locomotive, but there are significant grey areas where, for example, function does not involve moving parts. This topic is a complex one and a full discussion is outside the scope of this paper.
6. Canadian Association for Conservation and Canadian Association of Professional Conservators, *Code of Ethics and Guidance for Practice* (Ottawa: CAC and CAPC, 2000), p. 1.
7. Price, Judith and Fitzgerald, Gerald, "Categories of Specimens: A Collection Management Tool," *Collection Forum*, vol. 12, no. 1, 1996, pp. 8-13.
8. Netherlands Ministry of Welfare, Health and Cultural Heritage, *Deltaplan. Preservation of Cultural Heritage in the Netherlands*, Fact Sheet C-11-E-1992.

9. Ashley-Smith, Jonathan, *Risk Assessment for Object Conservation* (London: Butterworth-Heineman, 1999).
10. Ashworth, G.J., Awdersson, Å.E., Baer, N.S., Leonhard, J-R., Lyall, J.M., Martignon, L.F., Rütimann, H., Schubert, U. and Štule, J., “Group Report: Paradigms in Rational Decision-making in the Preservation of Cultural Property,” in: *Rational Decision-making in the Preservation of Cultural Property*, edited by N.S. Baer and F. Snickars, (Berlin: Dahlem University Press, 2001), pp. 277-293.
11. Waller, Robert, “Conservation Risk Assessment: A Strategy for Managing Resources for Preventive Conservation,” in: *Preventive Conservation Practice, Theory and Research: Preprints of the Contributions to the Ottawa Congress, 12-16 September 1994*, edited by Ashok Roy and Perry Smith, (London: International Institute for Conservation of Historic and Artistic Works, 1994), pp. 12-16.
12. Ashley-Smith, Jonathan, *Risk Assessment for Object Conservation* (London: Butterworth-Heineman, 1999).
13. State and condition are commonly confused, as in the example of the present display of the pioneering steam locomotive *Rocket* in its 1862 ‘condition’: (Bailey, M.R. and Glithero, J.P., *The Engineering and History of the Rocket* {York: National Railway Museum, 2000}, p. 167). It would be impossible to display the object in an earlier condition because condition is a result of time, use, deterioration and natural attrition, and cannot be reversed. What the authors mean is the *Rocket’s* state in 1862.