



## **PROCÈS-VERBAL / PROCEEDINGS**

### **L'impact des stratégies de durabilité sur la pratique de la conservation du patrimoine**

### **Impact of Sustainability Strategies on Heritage Conservation Practice**



**Édité par / Edited by: Christina Cameron et Shabnam Inanloo Dailoo**

**Table Ronde Organisée par la Chaire de Recherche du Canada en Patrimoine Bâti  
Faculté de l'aménagement, Université de Montréal**

**Round Table Organized by the Canada Research Chair on Built Heritage  
Faculty of Environmental Design, Université de Montréal**

**9 au 11 Mars 2011 / 9-11 March 2011  
Montréal, Québec**



**L'impact des stratégies de durabilité  
sur la pratique de la conservation du patrimoine**

**Impact of Sustainability Strategies  
on Heritage Conservation Practice**

**Procès-verbal / Proceedings**

Édité par / Edited by: Christina Cameron et Shabnam Inanloo Dailoo

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## 1. INTRODUCTION

Le sujet de la 6<sup>ième</sup> Table ronde de Montréal (2011) est L'impact des stratégies de durabilité sur la pratique de la conservation du patrimoine, l'un des aspects d'un plus large programme de recherche portant sur la relation complexe entre les approches bien établies de la conservation du patrimoine et les nouvelles exigences en matière de développement durable et de construction « verte ». Ce sujet s'aligne bien sur le programme de recherche de la Chaire de recherche du Canada en patrimoine bâti, particulièrement en rapport avec son intérêt premier portant sur l'étude des cadres et processus de la politique générale pour la conservation et la gestion des propriétés patrimoniales.

Bien que le développement durable soit généralement associé à l'environnement naturel et à la biodiversité, il se redéfinit au 21<sup>ième</sup> siècle avec l'addition de la dimension culturelle et de la diversité culturelle. Une petite mention de la culture est faite dans la définition classique de Brundtland dans *Our Common Future* (1987) du «développement qui répond aux besoins du présent sans compromettre la capacité des générations futures à satisfaire leurs propres besoins.»<sup>1</sup>

Au Sommet de la Terre des Nations unies de 1992, le développement durable est interprété en rapport avec les bénéfices environnementaux, économiques et de l'équité sociale. Le lien entre la culture et le développement commence à émerger dans la déclaration universelle de l'UNESCO sur la diversité culturelle (2001) et la Convention sur la diversité des expressions culturelles (2005). Conformément aux documents de l'UNESCO, le but est d'assurer la durabilité de la culture dans son sens le plus large incluant les arts appliqués, les connaissances traditionnelles, les modes de vie et les croyances religieuses. Au Canada, la province de Québec a été la première à passer une loi pour traiter de cette question avec sa Loi sur le développement durable (2006) quoique les considérations culturelles aient été ajoutées à la dernière minute dans le contexte du développement durable. On prétend souvent que la conservation du patrimoine et le développement durable sont des alliés naturels, poursuivant les mêmes buts et intérêts. L'argument qu'on utilise fréquemment est que la conservation du patrimoine contribue aux objectifs du développement durable en conservant les matériaux existants (environnemental), en fournissant des avantages directs et indirects par le tourisme et autres activités (économique) et en maintenant des pratiques culturelles traditionnelles (social). Bien qu'un certain effort ait été fait pour documenter la contribution de la conservation du patrimoine aux objectifs sociétaux de la durabilité, il y a eut bien peu de considération sur l'impact des approches de durabilité sur les théories et pratiques de la conservation du patrimoine. La table ronde 2011 de Montréal se

penche donc sur cette question: quel est l'impact des stratégies de durabilité sur la pratique en matière de conservation du patrimoine?

Reconnaissant l'importance croissante de la durabilité comme objectif sociétal, la Chaire a conçu la Table ronde de Montréal comme une étape préliminaire dans sa recherche sur la façon dont la pratique en matière de conservation du patrimoine peut faire preuve de durabilité et sur la façon dont elle peut se positionner dans une perspective de développement durable. L'architecte américain Carl Elefante mérite le crédit pour avoir utilisé l'expression « le bâtiment le plus vert est celui qui est déjà construit » en référence à l'énergie incorporée dans les bâtiments existants.<sup>2</sup> Mais c'est seulement l'un des aspects de la contribution de la conservation du patrimoine à la durabilité. La conservation du patrimoine bâti est liée à tous les aspects, y compris environnemental, économique, social et culturel. Cet énoncé est un jugement intuitif et qualitatif. Peu de preuve existe de cela. Il n'y a pas beaucoup de recherches sur les méthodologies pour mesurer la durabilité dans la conservation du patrimoine et sa contribution à l'élargissement des objectifs de développement durable. Ce manque de preuve rend difficile la réponse à l'éternelle question: démolir ou réutiliser les bâtiments patrimoniaux. Deux publications récentes offrent des éléments de réponse. Le récent ouvrage de l'organisation English Heritage, *Conservation Principles Policies and Guidance for the Sustainable Management of the Historic Environment* (2008) propose un cadre progressif pour la gestion de changement; et un numéro spécial du *Bulletin de l'Association internationale pour la préservation et ses techniques* (2010) se concentre sur les liens entre la durabilité et la conservation du patrimoine, surtout d'un point de vue environnemental.

Les tables rondes annuelles de Montréal de la Chaire de recherche du Canada en patrimoine bâti de l'Université de Montréal sont des occasions uniques d'apprentissage. Chaque année, la Chaire choisit un difficile sujet d'actualité pour des chercheurs et des praticiens et invite jusqu'à trente experts canadiens et internationaux en conservation du patrimoine et en disciplines connexes à participer à une discussion libre pendant trois jours. Les participants partagent leurs connaissances spécialisées afin d'orienter les discussions qui s'ensuivent. Selon l'esprit d'une table ronde, chaque participant joint le débat dans un solide échange de point de vue. Les Tables rondes de Montréal contribuent au programme de recherche de la Chaire en suggérant des pistes nouvelles et des sources en matière de documentation; les discussions indiquent également des avenues potentielles pour la réingénierie des processus de conservation du patrimoine afin de répondre aux besoins du 21<sup>ème</sup> siècle.



En lien avec le mandat éducationnel des Chaires de recherche du Canada, les étudiants sont invités à participer aux délibérations des Tables rondes de Montréal. La participation étudiante accomplit un des rôles de la Chaire dans la transmission de la connaissance à la prochaine génération de gardiens du patrimoine parce que le succès à long terme des stratégies de conservation dépendra de la prise en charge de telles responsabilités par les générations futures. En raison de l'espace limité, seulement les étudiants du deuxième cycle et du troisième cycle aux programmes d'étude en conservation du patrimoine sont invités à cette expérience d'apprentissage unique. Jusqu'à maintenant l'assistance a été composée d'étudiants de l'Université de Montréal, de l'Université de Carleton, de l'Université Laval et de l'Université du Québec à Montréal. En 2011, plus de soixante étudiants y ont participé. Quoiqu'ils aient tous l'avantage de profiter de ce réseautage, plusieurs étudiants participent plus activement comme rapporteurs de sessions. Les résultats des Tables rondes précédentes peuvent être consultés sur le site Web de la Chaire à l'adresse:

[http://www.patrimoinebati.umontreal.ca/site\\_français/PV\\_FR.html](http://www.patrimoinebati.umontreal.ca/site_français/PV_FR.html).

La Table ronde de Montréal réunit des experts canadiens et internationaux possédant une expérience dans les pratiques de construction durable, de conservation du patrimoine et dans des disciplines connexes issues des secteurs public et privé et d'organisations non gouvernementales et académiques. Le but de la rencontre est de stimuler un échange en matière de recherche, d'expériences et d'observations sur la conservation du patrimoine dans le but de clarifier comment les politiques, les directives et la pratique peuvent évoluer afin d'atteindre des buts sociétaux liés au développement durable. Le programme a été conçu pour explorer divers aspects de cette question. Introduits par la Chaire, les enjeux sont ensuite examinés de près dans l'exposé préparé par Julian Smith, architecte et directeur exécutif de la Willowbank School of Restoration Arts. Les sessions suivantes se concentrent sur la relation entre les deux mouvements de point de vue philosophique et pratique; la contribution de la durabilité à la pratique de la conservation du patrimoine; l'adéquation des méthodologies et des directives existantes en matière de conservation du patrimoine; et la pertinence de la dimension culturelle de l'Agenda 21 du gouvernement du Québec. Plusieurs études de cas illustrent l'application des approches de durabilité aux projets de conservation du patrimoine et à la préservation du patrimoine culturel immatériel.

La Table ronde soulève d'autres questions. Que veut dire la durabilité de nos jours? Est-ce que les deux domaines (conservation du patrimoine et développement durable) évoluent? À quoi contribue/peut contribuer la pratique de la conservation du patrimoine? En quoi la conservation du

patrimoine contribue/peut contribuer à la durabilité? Quelles sont les implications pour la pratique de la conservation du patrimoine de mesurer l'énergie intégrée? Est-ce que les directives et processus existants en matière de conservation du patrimoine sont adéquats? Où s'insère la dimension culturelle? En conclusion, quelles sont les implications pour les experts en matière de conservation?

Le résultat attendu de la Table ronde est une meilleure compréhension de la signification du développement durable et de son impact sur les théories et la pratique de la conservation du patrimoine. D'autres résultats incluent une évaluation de l'utilité des processus existants et la façon dont ils peuvent être modifiés sans perdre les valeurs patrimoniales de même que les stratégies pour équilibrer la conservation avec les autres besoins légitimes de la communauté. La discussion a pour but de faire progresser la compréhension sur la façon dont les valeurs de durabilité pourraient être appliquées aux processus décisionnels dans la gestion des sites historiques.

**Christina Cameron**

**Chaire de recherche du Canada en patrimoine bâti**

**avril 2011**



**Christina Cameron**  
(Photo: Sh. Inanloo Dailoo, 2011)

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<sup>1</sup> Gro Harlem Brundtland, 1987, *Our Common Future, Report of the World Commission on Environment and Development*, Oxford, Oxford University Press.

<sup>2</sup> Carl Elefante, 2007, "The greenest building is ... one that is already built," *Forum Journal: the Journal of the National Trust for Historic Preservation*, vol. 21, no. 4, 26-38.

## 1. INTRODUCTION

The focus of the 6<sup>th</sup> Montreal Round Table (2011) is the *Impact of Sustainability Strategies on Heritage Conservation Practice*, one aspect of a larger research agenda on the complex relationships between well-established heritage conservation approaches and new requirements for sustainable development and “green” building. This topic aligns well with the research agenda of the Canada Research Chair on Built Heritage, particularly with regard to her focus on examining general policy frameworks and processes for the conservation and management of heritage properties.

While sustainable development is generally associated with the natural environment and biodiversity, it is being re-defined in the 21<sup>st</sup> century through the additional dimension of culture and cultural diversity. There is little mention of culture in Brundtland’s classic definition in *Our Common Future* (1987) of “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”.<sup>1</sup> At the 1992 United Nations Earth Summit, sustainable development is interpreted through environment, economic and social equity benefits. The link between culture and development begin to emerge in UNESCO’s universal declaration on cultural diversity (2001) and the Convention on the diversity of cultural expressions (2005). According to the UNESCO documents, the goal is to ensure the sustainability of culture in its broadest sense, including creative arts, traditional knowledge, ways of life and religious beliefs. In Canada, the province of Quebec is the first to pass legislation to address this issue, beginning with its law on sustainable development (2006), although cultural considerations were only added at the last minute in the context of environmental sustainability.

It is often assumed that heritage conservation and sustainable development are natural allies, pursuing the same goals and interests. The argument is made that heritage conservation contributes to sustainable development by conserving existing materials (environmental), by providing direct and indirect benefits through tourism and other activities (economic) and by sustaining traditional cultural practices (social). While there has been some effort to document the contribution of heritage conservation to the broader societal goal of sustainable development, there has been little consideration of the impact of sustainability approaches on the theories and practice of heritage conservation. The 2011 Montreal Round Table is focused on this question: what is the impact of sustainability strategies on heritage conservation practice?

Recognizing the increased emphasis on sustainability as a societal goal, the Chair designed the Montreal Round Table as a preliminary step in an investigation of how heritage conservation practice can demonstrate sustainability and how it can be positioned within a sustainable development perspective. American architect Carl Elefante deserves credit for introducing the phrase "the greenest building is one that is already built," referring to the embodied energy of existing buildings.<sup>2</sup> But this is only one aspect of heritage conservation's contribution to sustainability. Built heritage conservation is linked to all aspects, including environmental, economic, social and cultural. This assertion is an intuitive and qualitative judgement. There is little hard evidence to prove it. There is not much research on methodologies to measure the sustainability of heritage conservation and its contribution to broader sustainable development goals. This lack of evidence makes it difficult to answer the age-old question: to demolish or to re-use heritage buildings. Two recent publications offer elements of a response. English Heritage's recent *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment* (2008) presents a progressive framework for managing change; and a special issue of the *Bulletin of the Association for Preservation Technology* (2010) focuses on the connections between sustainability and heritage preservation, largely from an environmental perspective.

The annual Montreal Round Tables held each March are unique learning opportunities created by the Canada Research Chair on Built Heritage at the Université de Montréal. Each year, the Chair selects a difficult topic of current interest to researchers and practitioners, inviting up to thirty Canadian and international experts in heritage conservation and related disciplines to participate in a free-wheeling discussion over three days. Speakers share their specialized knowledge as a means of framing the ensuing discussions. In the spirit of a Round Table, each participant joins the debate in a frank exchange of views. The Montreal Round Tables contribute to the Chair's research program by suggesting new lines of enquiry and source materials; as well, discussions point to potential avenues for re-engineering heritage conservation processes to meet the needs of the 21<sup>st</sup> century.

In line with the educational mandate of Canada Research Chairs, students are encouraged to participate in the deliberations of the Montreal Round Tables. Student participation fulfils one of the Chair's roles in transmitting knowledge to the next generation of heritage stewards, on the grounds that long-term success of conservation strategies will depend on future generations taking over such responsibilities. Because of limited space, only graduate students in heritage conservation studies are invited to this unique learning experience. So far, attendance has included students from the Université

de Montréal, Carleton University, Université Laval and the Université du Québec à Montréal. In 2011 more than sixty students were in attendance. While they all benefit from the networking opportunity, several students participate more actively as rapporteurs of individual sessions. Results of previous Montreal Round Tables can be consulted on the Chair's website at [http://www.patrimoinebati.umontreal.ca/site\\_anglais/PV\\_EN.html](http://www.patrimoinebati.umontreal.ca/site_anglais/PV_EN.html).

The 2011 Montreal Round Table brings together Canadian and international experts with experience in sustainable building practices, heritage conservation and related disciplines working in public, private, academic and non-governmental organisations. The purpose of the meeting is to foster an exchange of research, experience and observations about heritage conservation in order to clarify how policies, guidelines and practice may evolve to achieve societal goals related to sustainable development. The agenda is structured so that sustainability approaches may be explored from several perspectives. Following an introduction from the Chair, the issues are scoped out in a keynote address by Julian Smith, architect and Executive Director of the Willowbank School of Restoration Arts. The subsequent sessions focus on the general relationship between the two movements from a philosophical and practical perspective; the contribution of sustainability to heritage conservation practice; the adequacy of existing heritage conservation methodologies and guidelines; and the pertinence of the Quebec government's Agenda 21 on the cultural dimension. Several case studies illustrate the application of sustainability approaches to heritage conservation projects and to the preservation of intangible cultural heritage.

There are other questions that the Round Table addresses. What does sustainability actually mean? Are both fields (heritage conservation and sustainable development) evolving? What does/can sustainability contribute to heritage conservation practice? What does/can heritage conservation contribute to sustainability? What are the implications for heritage conservation practice of measuring embedded energy? Are existing heritage conservation guidelines and processes adequate? Where does the cultural dimension fit? Finally, what are the implications for conservation experts?

The expected outcome of the Round Table is a better understanding of the meaning of sustainable development and its impact on the theories and practice of heritage conservation. Other results include an assessment of the usefulness of existing processes and ways in which they could be modified without losing heritage values as well as strategies to balance conservation and other

legitimate community needs. The discussion aims to advance understanding of how sustainability values might be applied to decision-making processes for managing historic places.

**Christina Cameron**  
**Canada Research Chair on Built Heritage**  
**April 2011**

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<sup>1</sup> Gro Harlem Brundtland, 1987, *Our Common Future, Report of the World Commission on Environment and Development*, Oxford, Oxford University Press.

<sup>2</sup> Carl Elefante, 2007, “The greenest building is ... one that is already built,” *Forum Journal: the Journal of the National Trust for Historic Preservation*, vol. 21, no. 4, 26-38.

## 2. PROGRAMME DE LA TABLE RONDE

### Mercredi 9 mars 2011

18:00 Réception: cocktail d'ouverture de la Table ronde

Lieu: Bistro Olivieri  
5219 Chemin de la Côte-des-Neiges  
Montréal, Québec

### Jeudi 10 Mars 2011

Lieu: Institut de Statistique de l'UNESCO  
5255, avenue Decelles, 7<sup>ième</sup> étage  
Montréal, Québec

09:00 Inscription

09:15 **Mot de bienvenue**  
Giovanni De Paoli, Doyen, Faculté de l'aménagement, Université de Montréal

09:30 **Session 1: Introduction à la Table ronde 2011: Déterminer la portée des questions**

Présidente: Christina Cameron, Professeure, École d'architecture et Titulaire, Chaire de recherche du Canada en patrimoine bâti, Faculté de l'aménagement, Université de Montréal

Rapporteur 1: Natalie Whidden, étudiante, Université Carleton

Christina Cameron

*La conservation du patrimoine et le développement durable: orientation*

Julian Smith, Directeur exécutif, L'École des arts de restauration à Willowbank, Queenston

*Réflexions sur la pratique de la conservation du patrimoine et la durabilité*

10:30 Pause

11:00 **Session 2: La relation entre le développement durable et la conservation du patrimoine**

Présidente: Claudine Déom, Professeure adjointe, École d'Architecture, Faculté de l'aménagement, Université de Montréal

Rapporteur 2: Lashia Jones, étudiante, Université Carleton

Sean Fraser, Gestionnaire, Acquisitions et Services de conservation, Fiducie du patrimoine ontarien, Toronto

*La durabilité et la conservation du patrimoine: articuler la relation*

Jill Taylor, Architecte, Taylor Hazell Architectes, Toronto

*La durabilité et la conservation du patrimoine: amis ou ennemis?*

Martin Nielsen, Architecte principal, Busby Perkins Will, Vancouver

*Résoudre les divergences d'intérêts de la durabilité écologique et de la conservation du patrimoine: le Complexe Buchanan*

12:00 Discussion

12:30 Déjeuner

Lieu: Institut de Statistique UNESCO

13:15 **Session 3: La durabilité et la pratique de la conservation du patrimoine**

Président: Larry Ostola, Directeur général, Lieux historiques nationaux, Parcs Canada

Rapporteur 3: Marie-Andrée Thiffault, étudiante, Université de Montréal

Julia Gersovitz, Architecte, Fournier, Gersovitz, Moss associés, Montréal et  
Dinu Bumbaru, Directeur des politiques, Héritage Montréal et Président, ICOMOS  
Canada

*Le programme des trois « R » (Rénovation-Restauration-Recyclage) à l'Université de  
Montréal : éducation novatrice dans le développement durable?*

Patrice Frey, Directeur de recherche en durabilité, National Trust for Historic  
Preservation, Washington

*Le développement durable et la pratique de la conservation du patrimoine: les résultats  
de la recherche du National Trust for Historic Preservation*

14:15 Discussion

14:45 Pause

15:15 **Session 4: Méthodologies et directives**

Président: Nicholas Roquet, Professeur adjoint, École d'architecture, Faculté de  
l'aménagement, Université de Montréal

Rapporteur 4: Niki McKernan, étudiante, Université Carleton



Victoria Angel, Professeure contractuelle, Programme de conservation du patrimoine, École des études canadiennes, Université Carleton, Ottawa  
*Implications de la nécessité de durabilité dans les directives de conservation du patrimoine*

Gerry McGeough, Architecte et Architecte paysagiste, Université de la Colombie Britannique  
*UBC Renews: harmoniser la durabilité et la conservation du patrimoine*

Susan Ross, Architecte en conservation, Direction de la conservation du patrimoine, Travaux publics et Services gouvernementaux Canada  
*Appliquer les exigences de durabilité aux bâtiments patrimoniaux fédéraux*

16:15 Discussion

16:45 Clôture de la session

19:30 Dîner

Lieu: Bistro Olivieri  
5219 Chemin de la Côte-des-Neiges  
Montréal, Québec

### **Vendredi 11 mars 2011**

Lieu: Institut de Statistique UNESCO  
5255, avenue Decelles, 7<sup>ième</sup> étage  
Montréal, Québec

09:00 **Session 5: Pertinence de l'Agenda 21 du Québec et le quatrième pilier de la « culture »**

Président: Jean-Claude Marsan, Professeur émérite, École d'architecture Faculté de l'aménagement, Université de Montréal  
Rapporteur 5: Laure Emery, étudiante, Université de Montréal

Véronique Guèvremont, Ministère de la Culture, des Communications et de la Condition féminine, Québec  
*Agenda 21 et le quatrième pilier du développement durable*

09:30 **Session 6: Études de cas**

Présidente: Marie Lessard, Présidente du Conseil du patrimoine à Montréal et Professeure, Institut d'urbanisme, Faculté de l'aménagement, Université de Montréal  
Rapporteur 6: Judith Herrmann, étudiante, Université de Montréal

Gavin Affleck, Architecte, Affleck + de la Riva, Architectes, Montréal  
*Viser la durabilité: École Victoria, Montréal*

Laurier Turgeon, Professeur d'histoire et d'ethnologie, Titulaire, Chaire de recherche du Canada en patrimoine, Département d'histoire, Université Laval  
*Le développement durable et le patrimoine immatériel*

10:15 Pause

10:45 Mark Poddubiuk, Architecte senior et associé, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architectes, Montréal  
*Les approches de la durabilité dans la conservation de l'architecture moderne: les Habitations Jeanne-Mance à Montréal*

Daniel Pearl, Professeur agrégé, École d'architecture, Faculté de l'aménagement, Université de Montréal et Architecte senior et associé, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architectes, Montréal  
*Les approches de durabilité pour la réhabilitation des propriétés excédentaires: Benny Farm, Montréal*

11:30 Discussion

12:00 Déjeuner: Institut de Statistique de l'UNESCO

13:00 **Session 7: Discussion et conclusions de la Table ronde**

Président: Dinu Bumbaru, Directeur des politiques, Héritage Montréal et Président, ICOMOS Canada  
Comptes-rendus des rapporteurs

Natalie Bull, Directrice exécutive, Fondation Héritage Canada  
*Vue d'ensemble de la Table ronde 2011*

Discussion

15:15 Discours de clôture: Anne Cormier, Directrice, École d'architecture, Faculté de l'aménagement, Université de Montréal

15:30 **Clôture de la Table ronde 2011**

## 2. ROUND TABLE PROGRAMME

### Wednesday 9 March 2011

18:00 Welcome Reception: Opening cocktail for the Round Table

Location: Bistro Olivieri  
5219 Chemin de la Côte-des-Neiges  
Montréal, Québec

### Thursday 10 March 2011

Location: UNESCO Institute of Statistics  
5255, avenue Decelles, 7<sup>th</sup> floor  
Montréal, Québec

09:00 Registration

09:15 **Welcome**  
Giovanni De Paoli, Dean, Faculté de l'aménagement, Université de Montréal

09:30 **Session 1: Introduction to 2011 Round Table: Scoping the Issues**  
Chair: Christina Cameron, Professor, School of Architecture and Chairholder,  
Canada Research Chair on Built Heritage, Faculté de l'aménagement, Université  
de Montréal  
Rapporteur 1: Natalie Whidden, student, Carleton University

Christina Cameron  
*Heritage conservation and sustainable development: Setting the stage*

Julian Smith, Executive Director, Willowbank School of Restoration Arts,  
Queenston  
*Reflections on heritage conservation practice and sustainability*

10:30 Break

11:00 **Session 2: Relationship between Sustainable Development and Heritage  
Conservation**

Chair: Claudine Déom, Assistant Professor, School of Architecture, Faculté de  
l'aménagement, Université de Montréal  
Rapporteur 2: Lashia Jones, student, Carleton University

Sean Fraser, Manager, Acquisitions and Conservation Services, Ontario Heritage Trust

*Sustainability and heritage conservation: articulating the relationship*

Jill Taylor, Architect, Taylor Hazell Architects, Toronto

*Sustainability and heritage conservation: friends or foes?*

Martin Nielsen, Architect, Principal, Busby Perkins Will, Vancouver

*Resolving competing interests of ecological sustainability and heritage conservation: the Buchanan Complex*

12:00 Discussion

12:30 Lunch

Location: UNESCO Institute of Statistics

13:15 **Session 3: Sustainability and Heritage Conservation Practice**

Chair: Larry Ostola, Director General, National Historic Sites, Parks Canada

Rapporteur 3: Marie-Andrée Thiffault, student, Université de Montréal

Julia Gersovitz, Architect, Fournier, Gersovitz, Moss associés, Montréal and

Dinu Bumbu, Director of policy, Héritage Montréal and President, ICOMOS Canada

*Le programme des trois Rs (Rénovation-Restauration-Recyclage) à l'Université de Montréal : innovative education in sustainable development?*

Patrice Frey, Director of Sustainability Research, National Trust for Historic Preservation, Washington

*Sustainable development and heritage conservation practice: research findings from the National Trust for Historic Preservation*

14:15 Discussion

14:45 Break

15:15 **Session 4: Methodologies and Guidelines**

Chair: Nicholas Roquet, Assistant professor, School of Architecture, Faculté de l'aménagement, Université de Montréal

Rapporteur 4: Niki McKernan, student, Carleton University

Victoria Angel, Contract Instructor, Heritage Conservation Program, School of Canadian Studies, Carleton University

*Implications of sustainability requirements for heritage conservation guidelines*

Gerry McGeough, University Architect and Landscape Architect, University of British Columbia

*UBC Renews Programme: Balancing sustainability and heritage conservation*

Susan Ross, Conservation Architect, Heritage Conservation Directorate, Public Works and Government Services Canada

*Applying sustainability requirements to federal heritage buildings*

16:15 Discussion

16:45 Close of session

19:00 Dinner

Location: Bistro Olivieri  
5219 Chemin de la Côte-des-Neiges  
Montréal, Québec

### **Friday 11 March 2010**

Location: UNESCO Institute of Statistics  
5255, avenue Decelles, 7<sup>th</sup> floor  
Montréal, Québec

09:00 **Session 5: Pertinence of Quebec's Agenda 21 and the Fourth Pillar of "Culture"**

Chair: Jean-Claude Marsan, Professor Emeritus, École d'architecture, Faculté de l'aménagement, Université de Montréal

Rapporteur 5: Laure Emery, student, Université de Montréal

Véronique Guèvremont, Professeure, Faculté de droit, Université Laval  
*Agenda 21 et le quatrième pilier de développement durable*

09:30 **Session 6: Case Studies**

Chair: Marie Lessard, President Conseil du patrimoine à Montréal and Professor, Institute of Urban Studies, Faculté de l'aménagement, Université de Montréal

Rapporteur 6: Judith Herrmann, student, Université de Montréal

Gavin Affleck, Architect, Affleck + de la Riva, Architectes, Montréal  
*Aiming for sustainability: École Victoria, Montréal*

Laurier Turgeon, Professor in History and Ethnology, Chairholder, Canada Research Chair in Heritage, Département d'histoire, Université Laval  
*Le développement durable et le patrimoine immatériel*

10:15 Break

10:45 Mark Poddubiuk, Professor, École de Design, Université du Québec à Montréal  
*Sustainability approaches for the conservation of modern architecture: les Habitations Jeanne-Mance à Montréal*

Danny Pearl, Assistant Professor, School of Architecture, Faculté de l'aménagement, Université de Montréal and Senior Architect and Partner, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architectes, Montreal  
*Sustainability approaches for rehabilitation of surplus properties: Benny's Farm, Montréal*

11:30 Discussion

12:00 Lunch: UNESCO Institute of Statistics

13:00 **Session 7: Round Table Discussion and Conclusions**

Chair: Dinu Bumbaru, Director of policy, Héritage Montréal and President, ICOMOS Canada

Reports of the Rapporteurs

Natalie Bull, Executive Director, Heritage Canada Foundation  
*Overview of 2011 Round Table*

General discussion

15:15 Anne Cormier, Director, School of Architecture, Faculté de l'aménagement, Université de Montréal  
*Closing Remarks*

15:30 **Close of 2011 Round Table**

### 3. BACKGROUND PAPER / DOCUMENT D'INFORMATION RECONCILING SUSTAINABILITY AND CONSERVATION: AN UNEXPECTEDLY LONG ROAD

**Herb Stovel**, Associate Professor, Heritage Conservation Programme, School of Canadian Studies, Azrieli School of Architecture, Carleton University

DRAFT submitted to the University of Montreal Round Table March 2011

#### Introduction

The conservation world in Ontario has been examining a recent decision by OMB member Marc Denhez with great interest. Last week, the Architectural Conservancy of Ontario newsletter gave this decision front page billing<sup>1</sup>. Although not specifically addressing heritage issues, the decision is highly relevant for those who are in the awkward position of having to choose between two concepts usually billed as happy room-mates - sustainability and conservation.

Denhez first describes a 2009 project in which City of Toronto homeowners sought to expand their suburban bungalow upward – doubling the height of other houses within visual range and adding a three-storey tower (exceeding the Zoning bylaw maximums) - and sideways (increasing Floor Space Index (FSI) beyond allowable limits), and encroaching on sideyard allowances.

Denhez' decision notes that:

*“City planning staff expressed concerns, but the Committee of Adjustment (COA) authorized the variances. No appeal was filed. Then the Applicants had a new idea – to demolish the existing dwelling completely, and start over with new materials/techniques: “This project”, said their architect, “is to be LEED certified... and must maintain its ‘green’ features to be able to use this internationally recognized label”.*

*However, the City treated this as a new project – “a new two-storey dwelling” rather than an “addition”. So in 2010, the Applicants re-applied to the COA, with similar dimensions. The COA responded as before; but this time, the owner of the neighbouring bungalow.....appealed to the Board. Her Notice of Appeal did not mention sideyards, but did mention FSI and height.”<sup>23</sup>*

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<sup>1</sup> Architectural Conservancy of Ontario electronic newsletter. March 1, 2011. Editorial: *The Greenest Building Is The One Already Standing*, Lloyd Alter, President, ACO.

<sup>3</sup> Decision document, Ontario Municipal Board Case number **Error! Main Document Only**.PL100661, in the matter of subsection 45(12) of the Planning Act, R.S.O. 1990, c.P.13, as amended. Presiding member: Marc C. Denhez. Issued Jan. 17, 2011.

Denhez' conclusions (which denied planning permission for this project) emphasized the importance of careful use of ambiguous terms and concepts and brings into question the relationship between achieving LEED goals and overall rational planning.

*"The Applicants' case opened with emphasis on LEED. The architect's letter called LEED "the best guarantee with regard to the quality"; and the Applicants' Planner told the Board that "environmental sustainability will be promoted". Those words demand consideration: history is riddled with instances where innovation was hamstrung by overly literal adherence to rules, and where environmentalism was poorly served by hidebound regulation.*

*Does this project nonetheless deserve favourable treatment for "promoting environmental sustainability"? In a province where sending a plastic bag to landfill is considered environmentally problematic, the notion of turning entire buildings into landfill - in the name of environmental sustainability - would surprise at least some observers. For present purposes, it is sufficient to note that such claims are no shortcut around the Planning Act."*

A Canadian insurance company evaluated the cost and insurance effectiveness of LEED in a Sept. 2006 paper prepared for this purpose: *LEED us not into temptation: Sustainable Design / LEED from an Insurer's Risk Management Perspective*<sup>4</sup>. The paper begins by describing LEED (Leadership in Energy and Environmental Design) as a scoring system developed by the USGBC (United States Green Building Council) to allow architects and owners to pursue "Green Design" - and now administered in Canada by the Canada Green Building Council (CaGBC). The paper describes the scoring system which involves a specific set of LEED criteria:

*"The higher the score, the more "Green" the building. Categories include "Certified" (achieves the minimum points to be designated as LEED compliant), Silver, Gold and Platinum."*

But the paper concludes with some hints of limitations:

*"LEED is enormously appealing to architects and to many clients, as it delivers a "prize" to the participants if they meet the LEED criteria. But that is also one of its weaknesses. There is the temptation to introduce measures into the design in the pursuit of a "credit" towards the prize, regardless of other considerations. Achieving a level of LEED recognition may become an end in itself regardless of the actual value of a measure to the client and his needs."*

The President of the ACO, Lloyd Alter places the Denhez decision in a larger context.

*"Three years ago at the ACO conference in Collingwood, Donovan Rypkema described the green rating system, LEED, as "Lunatic Environmentalists Enthusiastically Demolishing". He*

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<sup>4</sup> The Pro-demnity Insurance Company of Canada. Sept. 2006. *LEED us not into temptation: Sustainable Design / LEED from an Insurer's Risk Management Perspective*.



*noted that "going green" was being used as an excuse and justification for destroying historic buildings and neighbourhoods"<sup>5</sup>.*

Alter continued, highlighting newly appreciated green benefits to heritage retention, noting that *".....our heritage conservation districts and historic communities are greener than new construction because, simply, people drive less".*

To support this point, he cites recent reports by Natural Resources Canada, and the Environmental Protection Agency (USA) that state that:

*"Transportation efficiency", the amount of fuel used to get around, is more important than "energy efficiency." Building and maintaining transit-oriented, walkable and cyclable communities saves more energy than building more efficient cars and greener suburban houses.*

This kind of confusion – discovering that those working with energy sustainability are not in agreement on best practice, and that investment in energy sustainability can undermine achieving other sustainable development goals, including those associated with cultural sustainability, puts in relief some very important questions:

What do we really mean by sustainability?

How do we ensure we can achieve optimum sustainability for all?

And what we do mean by cultural or heritage sustainability? How is the latter different than general sustainability? How do we identify and measure cultural or heritage sustainability?

This paper attempts to look at these questions by first returning to the intentions of those who brought us sustainable development in the late 80s and subsequent attempts of others to transfer this environmental, social and economic concept to the cultural sphere. Secondly, it proposes two key related principles which may allow us to improve our ability to protect and enhance heritage within sustainability frameworks.

- Adopting a big picture integrated perspective in decision making for sustainability
- Improving our ability to measure heritage sustainability, within a big picture perspective

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<sup>5</sup> The Architectural Conservancy of Ontario. March 1, 2011 electronic newsletter. The Greenest Building Is The One Already Standing, Lloyd Alter, President, ACO.

## Historical Background Sketch

Mrs. Brundtland's well known definition of sustainable development - "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."<sup>6</sup> - appears admirably clear when we apply it to the natural environment - but much less so when we seek to apply it to the cultural environment.

The approach to sustainable development at the time of Mrs. Brundtland's report is best illustrated with a quick overview of its contents explored in Part II Common Challenges, which lists in turn, Population and Human Resources, Food security, Species and ecosystems, Energy, Industry (Producing More With Less), The Urban Challenge, Managing The Commons, (Oceans, Space, Antarctica), Peace, Security, Development, and the Environment. Only in acknowledging the urban challenge do quality of life issues begin to emerge which touch cultural development.

The discussion about the nature and focus of sustainable development which was begun in *Our Common Future* continued in important intergovernmental forums for some years.

The Rio de Janeiro meeting of 1992 extended the primary concern for the natural environment and consumption of non-renewable natural resources, to embrace the notion of sustainable human development. The meeting resulted in a document (*Agenda 21*) prepared by the governments present as a 21<sup>st</sup> century national level blueprint to move toward sustainability on the home front<sup>7</sup>. But that document, while extending the scope of *Our Common Future*, did not explicitly address cultural sustainability.

The focus of the Rio meeting may best be judged by looking at the contents of *Agenda 21*. The 40 chapters of the document address *Social and Economic Dimensions* (combating poverty, changing consumption patterns, promoting health, change population and sustainable settlement, *Conservation and Management of Resources for Development* (*atmospheric protection*, combating *deforestation*, protecting fragile environments, conservation of biological diversity (*biodiversity*), and *control of pollution*), *Strengthening the Role of Major Groups* (including the roles of children and youth, women, NGOs, local authorities, business and workers) and *Means of Implementation* (science, *technology transfer*, *education*, international institutions and financial mechanisms.) As the table of contents

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<sup>6</sup> *Our Common Future*, Report of the World Commission on Environment and Development: Our Common Future Chair, Mrs. H.G. Brundtland. 1987.

<sup>7</sup> *Agenda 21*, United Nations Conference on Environment and Development (Earth Summit), held in Rio de Janeiro on June 13, 1992.

verifies, while the focus on sustainable human settlements increased in the 5 years from the 1987 publication of *Our Common Future*, a strong emphasis on culture was still absent.

Concern for this lack began to appear more regularly in international forums. In 1999, the largest conservation conference world round was organized by the World Bank in Florence, Italy on the theme “Culture Counts”, and this brought new respectability to the quest for cultural sustainability - if not clearer approaches. .

The formal lack of a place for culture in the sustainability world was finally addressed in a 2002 international meeting in Porto Alegre, Portugal, which proposed an *Agenda21 for Culture*. A final document was submitted in 2000 in UN-Habitat and UNESCO, and ultimately responsibility for implementation of the *Agenda 21 for Culture* was passed to the United Cities and Local Governments (UCLG) organisation, also founded in 2004. . However passing the torch for culture outside the existing intergovernmental frameworks already in use to a cities network seems not to have proven an effective vehicle in strengthening the place of culture in sustainability.

But by 1996, well before the Porto Alegre cultural sustainability discussions, intergovernmental exchanges had begun to include a concern for cultural heritage sustainability. The Habitat II agenda document (Istanbul 1996)<sup>8</sup> recognized.

*“Historical places, objects and manifestations of cultural, scientific, symbolic, spiritual and religious value are important expressions of the culture, identity and religious beliefs of societies. Their role and importance, particularly in the light of the need for cultural identity and continuity in a rapidly changing world, need to be promoted. Buildings, spaces, places and landscapes charged with spiritual and religious value represent an important element of stable and humane social life and community pride. Conservation, rehabilitation and culturally sensitive adaptive reuse of urban, rural and architectural heritage are also in accordance with the sustainable use of natural and human-made resources. Access to culture and the cultural dimension of development is of the utmost importance and all people should be able to benefit from such access.”*

This was still early days for a preoccupation with cultural heritage however. The “actions” proposed to achieve these goals strongly emulate the goals of conservation as described at the time, including for example the need:

*“To promote historical and cultural continuity and to encourage broad civic participation in all kinds of cultural activities, Governments at the appropriate levels, including local authorities, should:*

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<sup>8</sup> Habitat II Agenda document. Second United Nations Conference on Human Settlements, *Istanbul*, Turkey, June 3–14, 1996,

(a) Identify and document, whenever possible, the historical and cultural significance of areas, sites, landscapes, ecosystems, buildings and other objects and manifestations and establish conservation goals relevant to the cultural and spiritual development of society;

(b) Promote the awareness of such heritage in order to highlight its value and the need for its conservation and the financial viability of rehabilitation;

(c) Encourage and support local heritage and cultural institutions, associations and communities in their conservation and rehabilitation efforts and inculcate in children and youth an adequate sense of their heritage;

(d) Promote adequate financial and legal support for the effective protection of the cultural heritage;" etc.

However tentative a move in the direction of heritage sustainability, the Habitat II Agenda document provided a platform for advancing sustainability for cultural heritage by those working at national and regional levels. Scandinavians were the first to jump into this. By January 1998, publications such as *Sustainable Historic Cities: A North Eastern European Approach*<sup>9</sup> produced by Kris Endresen of the Nordic World heritage Office (author Hans Jacob Roald) were recognizing the importance of this approach and exploring ways to measure heritage sustainability for historic cities. Roald works through a matrix (below) which tries to link three contexts on the one hand (the city in the landscape, the city itself, and a project within the city) within an exploration of the ongoing tension between continuing urban development and existing value attributions, and appropriate management approaches necessary to reconcile both.

This project stimulated much thinking at the time in the Baltic-Nordic region but did not seem to produce related follow up projects beyond the region. Today, we can find efforts to consolidate understanding of the links between sustainability and heritage conservation in many publications and corners of the world. The 2002 *Monitoring World Heritage* workshop in Vicenza organized by ICCROM highlighted some methods for defining indicators for cultural heritage<sup>10</sup>. The paper which I contributed for ICCROM shows how the choice of meaningful indicators in a heritage context can be built around a process which moves in a hierarchical fashion from desired orientation (described here as “statements of

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<sup>9</sup> Nordic World Heritage Office, *Sustainable Historic Cities: A North Eastern European Approach*. Report Number 1. Hans Jacob Roald. January 1998.

<sup>10</sup> *Monitoring World Heritage*, UNESCO, 11-12 November 2002, Vicenza, Italy, Herb Stovel *An Advisory Body View of the Development of Monitoring for World Cultural Heritage*, ICCROM. Pages 17-22.

principle”), through articulation of a series of key questions (and possible answers) which are linked to the statement of principle. For each “answer” to each “key question”, it is possible to identify possible indicators. In this way, the choice of indicators can be understood to reflect agreed upon choices of direction for managing change. This is a monitoring methodology but it is possible to see how this can be applied to sustainability for heritage places, with appropriate definition of the the beginning orientation.

**‘SUSTAINABLE HISTORIC CITIES’  
A NORDIC-EASTERN EUROPEAN APPROACH  
MATRIX FOR ENVIRONMENT IMPACT  
ASSESSMENT AND CASE STUDIES**

CITY	VALUES	DEVELOPMENT	MANAGEMENT
IN THE REGION	<ul style="list-style-type: none"> <li>• Which cultural / historic values are formal parts of regional development?</li> </ul>	<ul style="list-style-type: none"> <li>• Is there an authorised description on a long term regional development which will influence on the physical structure of the city?</li> </ul>	<ul style="list-style-type: none"> <li>• Which governmental bodies have responsibility for / influence on physical planning / or heritage protection?</li> <li>• What instruments have these bodies at their disposal?</li> </ul>
THE CITY CENTRE	<ul style="list-style-type: none"> <li>• Which cultural / historic criteria are incorporated in selection of city policies / development?</li> <li>• Which of these values are protected by law?</li> </ul>	<ul style="list-style-type: none"> <li>• In what way does the regional development influence the physical structure of the city?</li> <li>• Does the cultural / historic parts of the city play a specific part in a broader town planning perspective?</li> </ul>	<ul style="list-style-type: none"> <li>• What are the strategies of the different local government bodies concerning physical development and heritage protection within the city?</li> </ul>
THE PROJECT	<ul style="list-style-type: none"> <li>• With reference to the bodies in charge of heritage protection, in what way does the project influence the city values?</li> </ul>	<ul style="list-style-type: none"> <li>• With reference to planning authorities, in what way does the project influence, or form part of, official city development plans?</li> </ul>	<ul style="list-style-type: none"> <li>• Give a description on the development of the planning process or the process leading to building permission concerning:               <ol style="list-style-type: none"> <li>1. agenda setting</li> <li>2. decision making</li> <li>3. implementation</li> <li>4. monitoring</li> <li>5. evaluation.</li> </ol> </li> </ul>

Dennis Rodwell's 2007 publication<sup>11</sup> *Conservation and Sustainability in Historic Cities*, was developed during his work as a UNESCO consultant in the Nordic-Baltic States. Rodwell notes in discussing links between sustainability and conservation:

*“In the wider environmental sense, conservation and sustainability have parallel meanings and are frequently used interchangeably to express the need to manage the world's natural resources and the biosphere in order: first to secure long term harmony between man and nature; and second to achieve continuous enhancement in the environment and in the conditions and quality of life for humans and other life forms. It is in this broad sense that sustainability is used in this book. Conservation, on the other hand has a much narrower meaning when applied to historic cities. The principal root is architectural conservation, whose starting points include archaeology and the geocultural diversity and historical evolution of architectural styles, building materials and techniques. The secondary root of urban conservation is townscape and a morphological and aesthetic approach to the management of change in historic cities. Neither architectural conservation nor townscape is founded upon a preoccupation with sustainability. Both, however, have the potential to make significant contribution to it.”*

But while these efforts to explore such links have continued to proliferate, the international gatekeeper for efforts to shape the international sustainable development framework in ways useful for measuring sustainability progress in national programmes is the *Commission for Sustainable Development (CSD)*, set up just after the 1992 Rio meeting. Unfortunately, this group has hardly changed its spots in its near 20 years of existence – maintaining the social, economic and environmental (and sometimes institutional) dimensions of sustainability, in spite of the numerous continuing national, regional and international calls to establish the importance of “cultural counting” for sustainability, only a few of which are highlighted above.

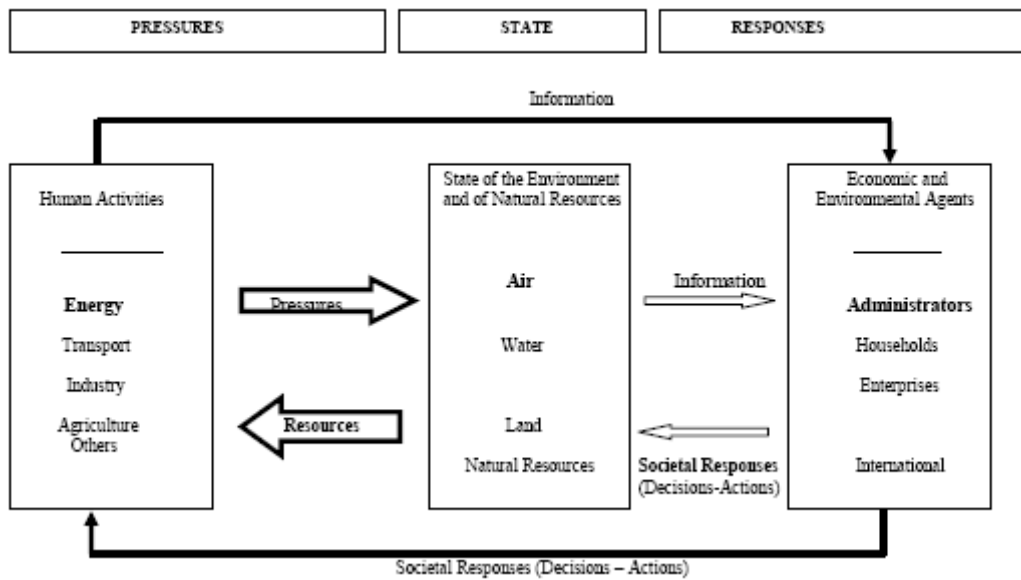
The CSD efforts are built around monitoring frameworks established by the OECD (Organisation of Economic Co-operation and Development)<sup>12</sup>. These frameworks adopt a Pressure – State - Response model, identifying for each area of interest indicators which allow change to be measured in pressures (or driving forces) confronting that area of interest, resulting changes in the state (or condition) of that area of interest and changes in the response modes which attempt to adjust state (or condition) to pressures (or driving forces). This approach has the advantage of offering a dynamic framework for measuring change, but also a major disadvantage – that it relies inherently on use of numerical indicators, not always appropriate for measuring change in heritage qualities.

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<sup>11</sup> *Conservation and Sustainability in Historic Cities*, Dennis Rodwell, 2007, Blackwell Publishing, Oxford, UK

<sup>12</sup> OECD (Organisation of Economic Co-operation and Development). Pressure-State-Response Monitoring model, 2000.

### Pressure – State – Response Framework



Just as this model has been brought into the measuring world of the CSD, in parallel, it has also been brought into the increasing preoccupation of the heritage world over the last 25 years to develop monitoring systems to measure changing states of conservation for places of heritage value. Hence both sides – monitoring for sustainability and monitoring for conservation - have seized an approach which offers the benefits of measuring in dynamic modes – but one also restricted by its dependence in large measure on scientifically derived numerical indicators – a great disadvantage for those concerned with measuring heritage. We will come back to this point later.

The use of the OECD monitoring model within the CSD frameworks is shown below.

The following extract from *Indicators of Sustainable Development, the CSD Working List of Indicators of Sustainable Development (Sept 1996)*<sup>13</sup> illustrates simply how “pressure (or driving force)”, “state (or condition)” and “response” indicators have been developed for particular subject areas.

The CSD document notes

*“This should be seen as a flexible list from which countries can choose indicators according to national priorities, problems and target. The indicators are presented in a Driving Force - State - Response framework. “Driving Force” indicators indicate human activities, processes and patterns that impact on sustainable development. “State” indicators indicate the “state” of sustainable development and “Response” indicators indicate policy options and other*

<sup>13</sup> *Indicators of Sustainable Development, the CSD Working List of Indicators of Sustainable Development (Sept 1996)* Commission for Sustainable Development.

*responses to changes in the “state” of sustainable development. The social, economic, environmental and institutional aspects of sustainable development are covered by this list of indicators following the chapters of Agenda 21.”*

From the CSD came the formal articulation of the three pillars of sustainable development already mentioned above (social, economic and environmental), with occasional mention of a possible 4<sup>th</sup> pillar (institutional sustainability) - and equally, many of the shortcomings now encountered by those seeking explicit support for efforts to measure and achieve cultural sustainability.

This short historical perspective suggests a number of key considerations important to keep in mind in reviewing progress toward bringing sustainability and conservation together.

- The ambiguous use of sustainability has often allowed mistaken, misleading and unchallenged assumptions to root themselves in practice, namely that achieving green sustainability supports achieving other forms of sustainability.
- Efforts to establish the legitimacy of cultural sustainability and heritage sustainability have not always followed the same path, and have often led to choices of different measuring methodologies. .
- Much of the effort to establish measures for heritage sustainability have been borrowed from monitoring systems established for measuring change(state of conservation) in places of cultural heritage value.
- Sustainability advocates and practitioners do not all work with the same sustainability agenda. Hence the international CSD (Commission for Sustainable Development) is reinforcing measurement frameworks focused on social, environmental and economic sustainability with little regard for links to cultural or heritage sustainability, 20 years after its founding, and in spite of the many subsequent efforts to direct concern to cultural sustainability. .
- Intergovernmental efforts to establish a framework for cultural sustainability – planted within a local cities network (UCLG) - have largely failed to advance global credibility and authority for these efforts.



CHAPTER OF AGENDA 21	DRIVING FORCE INDICATORS	STATE INDICATORS	RESPONSE INDICATORS
<b>CATEGORY: SOCIAL</b>			
Chapter 3: Combating poverty	- Unemployment rate	- Head count index of poverty - Poverty gap index - Squared poverty gap index - Gini index of income inequality - Share of consumption of renewable energy resources	
Chapter 33: financial resource	- Net resources transfer/GNP - Total ODA given or received as a percentage of GNP	- Debt/GNP - Debt service/export	- Environmental protection expenditures as a percent of GDP - Amount of new or additional funding for sustainable development
Chapter 34: Transfer of environmentally sound technology, cooperation and capacity-building	- Capital goods imports - Foreign direct investment	- Share of environmentally sound capital goods imports	- Technical cooperation grants
<b>CATEGORY: ENVIRONMENT</b>			
Chapter 18: Protection of the quality and supply of freshwater resources	- Annual withdrawals of ground and surface water - Domestic consumption of water per capita	- Groundwater reserves - Concentration of fecal coliform in freshwater	- Waste-water treatment coverage - Density of hydrological networks
Chapter 17: Protection of the oceans, all kinds of seas and coastal areas	- Population growth in coastal areas - Discharges of oil into coastal waters - Releases of nitrogen and phosphorus to coastal waters	- Maximum sustained yield for fisheries - Algae index	
Chapter 10: Integrated approach to the planning and management of land resources	- Land use change	- Changes in land condition	- Decentralized local-level natural resource management
Chapter 12: Managing fragile ecosystems: combating desertification and drought	- Population living below poverty line in dryland areas	- National monthly rainfall index - Satellite derived vegetation index - Land affected by desertification	
Chapter 13: Managing fragile ecosystems: sustainable mountain development	- Population change in mountain areas	- Sustainable use of natural resources in mountain areas - Welfare of mountain populations	
Chapter 14: Promoting sustainable agriculture and rural development	- Use of agriculture pesticides - Use of fertilizers - Irrigation percent of arable land - Energy use in agriculture	- Arable land per capita - Area affected by salinization and waterlogging	- Agriculture education
Chapter 11: Combating deforestation	- Wood harvesting intensity	- Forest area change	- Managed forest area ration - Protected forest area as a percent of total forest area
Chapter 15: Conservation of biological diversity		- Threatened species as a percent of total native species	- Protected are as a percent of total area
Chapter 16: Environmentally sound management of biotechnology			R & D expenditure for biotechnology Existence of national biosafety regulations or guidelines

### **First Key Principle: Big Picture Integrated Sustainability**

Using sustainability to protect heritage resources involves paying attention to two key principles, as noted above. The first of these is working within a big picture integrated sustainability framework. Sustainability can mean any things to many people, and it sometimes seems to be claimed by all as an objective. But without for the moment attempting to provide a workable definition of sustainability (either generally or as it might apply to cultural heritage), one of the key considerations in assessing the legitimate sustainability of initiatives is the use of a “big picture” integrated perspective.

This is an easy contention to subscribe to, but often more difficult to use in decision-making situations. The point was brought home with great force to students involved with both the heritage conservation programme in the School of Canadian Studies and the School of Architecture at Carleton during a joint project carried out during the fall of 2009. The project, proposed by the Ontario Ministry of Culture heritage staff involved carrying out adaptive re-use studies of six soon-to-be-empty heritage buildings in Kemptville, in North Grenville Township.

At an early point in the project, the student groups assigned to analyse re-use possibilities for individual buildings began to realize that the six buildings – hitherto well used – were being emptied by local planning decisions which seemed quite unsustainable - particularly in a town whose motto was “Green and Growing”. Indeed a little research demonstrated that the individual decisions to vacate buildings were being driven in large measure by provincial policies which had little regard for big picture sustainability.

The most flagrant of these was the “prohibitive to repair” policy of the Ontario Ministry of Education which encourages School Boards to demolish older schools if the cost of repair/ upgrading is greater than 65% of the cost of building new. Even if a repair can bring a building up to an adequate performance standard at 2/3 the cost of building new, the local School Board may not receive funding for this option. In Kemptville, the municipality was offered substantial funding to build new at a remote site well out of town, as long as they abandoned their older 1930s High School. The Council felt they had little choice but to follow this advice as upgrading funding would not be supplied, even though:

they would have to top up provincial funding by many million dollars,  
the new High School would require substantial increased transit energy costs,  
the demolition of the original High School would result in the loss of the community’s core identity centre, situated behind of Kemptville’s Cenotaph and war memorial.

Similar provincial inducements had pushed the local Council to close remarkable library buildings in Kemptville itself (a Carnegie Library) and in nearby Oxford Mills (an architecturally distinguished mid 19<sup>th</sup> century Town Hall, and National Historic Site) in favour of a modern facility in Kemptville. This new central facility would be state of the art but would be much more difficult to visit than the older libraries given their greater local accessibility. But while it might be more energy efficient than any of the older structures it replaces, from a big picture perspective, North Grenville could be described as moving backward in terms of overall sustainability.

### **Second Key Principle: Improving our Ability to Measure Heritage Sustainability, within a Big Picture Perspective**

As noted above, the use of the OECD “Pressure (or driving force), State (or condition), Response model for monitoring in measuring changes in heritage places has implicitly handicapped those involved by treating cultural heritage change as if it can be measured with the mathematical precision used by natural scientists involved in measuring environmental change.

Hence for example, even where governments (such as the that of Sweden) have taken strong interest in the development of indicators appropriate for monitoring the state of the “cultural environment”, and even where descriptive, non-quantifiable indicators are indicated as desirable, in the “belief that the risk was great that the quantifiable facts were not those relevant for a sustainable living environment” the indicators chosen tend to focus on measuring “numbers of.....” as illustrated below.

The monitoring system developed for use in Sweden by its Heritage Board (derived herein from an English translation by Katri Lisitzin of Swedish documents in development around 2004)<sup>14</sup> states specifically that heritage values (“historical and aesthetical” values) and attributes (“design ideas from different eras, and local and regional characteristics clearly visible in buildings, scale, material, design and details”) are preserved when:

- *“Existing building structures and functional connections are respected and enhanced in physical planning*
- *City cores and the role of town centers as nodes for commerce, administration and communications are safeguarded and developed*

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<sup>14</sup> Swedish Heritage Board, *Monitoring the Cultural Environment*. Draft document in progress (2004) for use in ICCROM *Monitoring Reference Manual*. (unpublished). . Translation provided by Katri Lisitzin.

- *Symbolic buildings - in towns and in the countryside – are preserved and used and taken care of*
- *New building structures are established taking into consideration the traditions in the existing building structures*
- *Policies for change, maintenance and management use the values of the existing environment as a starting point*
- *Construction managers, builders, designers and craftsmen have good knowledge of the cultural/ historical values of buildings, and of material and techniques used in different historical periods*
- *Adequate material for the maintenance and care of buildings and other structures from different historical periods is easily available throughout the country*
- *A representative number of historically valuable built environments are protected by law”.*

Here, as can be seen, values and attributes are linked to indicators, to provide objective guidelines for measuring. But also, as can easily be seen, most of these indicators are satisfied by numeric measures. The overall matrix (illustrated in part below) used to organize information is quite sophisticated and links on the one hand various areas of concern (impacts, state/condition, activities) initially to a range of situational considerations (shall answer to..., is monitored by..., type, and data sources). A final “problems” matrix links to action alternatives (do nothing, need for change, support and constraint needs ( resources, time, respect), effects, and finally – conflicts/ synergy with other environmental goals). While the individual numeric outputs of the early matrices may be limiting, the overall framework presents a broad and balanced picture of heritage sustainability, and leads to possibilities for real world action and real world balancing of conservation and sustainability objectives.

In spite of the innovative, hands-on nature of this approach, the Swedish Heritage Board approach appears not to have been imitated elsewhere. A representative set of tables illustrating this approach follows immediately below.

Area of concern	Shall answer to	Is monitored by	type	Data/source/exists/other
<b>IMPACT</b>				
New building(s)	If the volume and character of the new building can threaten the historical values	No of building permits Type of buildings and regional spread	statistics	National Heritage Board Statistical Yes
External markets	If the conditions for the survival of the characteristic functions of the city change	No of external markets Regional spread	statistics	National Housing Board, NHB Regional surveys  National Housing Board
Demolitions in built-up areas or planned areas	To what extent do buildings disappear? Which types, which age?	No of demolished buildings according to permits Type, age, regional spread	statistics	NHB Municipalities
Modernization of ...	Have maintenance and modifications been carried out with care?	Number of buildings restructured (external and internal) Age, ownership, type of action, regional	statistics	NHB, Statistical  National Housing Board
<b>STATE / CONDITION</b>				
Town structure and buildings	Are the town's built characteristics respected and continue to exist? Which changes take place in the town centers?	The limits of expansion Structure of lots Parks: green space Large volume intrusions Safeguarding The public space Activities and functions	See special monitoring program	
Regional characteristics in the built structure ( outside towns)	Are the regional characteristics are respected and enhanced?	built structure road structure building traditions other changes in land-use	see monitoring programme for regional characteristics	
<b>ACTIVITIES</b>				
Protected buildings	To what extent does the society actively protect historic buildings? To what extent does the society actively protect valuable buildings in towns?	total no of buildings protected through law level of protection, county, municipality number of protected buildings in towns building type, age, form of protection and regional data	statistics	NHB, survey, municipalities   survey, municipalities and the NHB, national building register
Importance of cultural environment in the physical planning	To what extent is the historical aspect of the town considered in planning and building?	number of municipalities with staff competence in the field or the ability to contract with museums or other sources of conservation competence	statistics	NHB, survey municipalities

PROBLEM	DO NOTHING ALTERNATIVE	NEED FOR CHANGES	NEED FOR RESOURCES/ TIME/RESP	EFFECTS	CONFLICT(-) SYNERGY (+) ( with other ENVIRONMENTAL goals)
existing legal possibilities of conservation are not implemented inadequate maintenance and care	continuing deterioration and change with consequent damages on cultural values	1. revised law implementation 2. national overview 3. central guidelines 4. municipal programmes linked to master plans	research 2005 NHB, county, municipalities before 2010  2010-20 municipal	better implementation  better representativity help for municipalities guidelines for property owners etc	Agricultural landscape+ coasts+ traffic - density increase - energy -
lack of cross-sectoral method development lack of sufficient heritage motivation in decision-making, too late in the process	exploitation for building and infrastructure and management causing serious damage to heritage values	1. development of analysis and methodology 2. central guidelines for planning, building and management 3. local and regional surveys	research 2000-05  project financing before 2010  2010-2020	supportive information which facilitates and justifies a more adequate prioritization in decision-making  relevant background for decision-making	"
lack of competence regionally and locally in planning building and management	strategic considerations and hearings according to the laws are not followed	personnel resources	annual personnel costs 2005-2020	adequate personnel possibilities to fulfil the requirements specified in the legal framework	all environmental goals dealing with historical values +
existing state subventions and traffic designs do not consider historical values, they respond to priority standards and time pressures etc.	harming historically valuable built environments	1. needs assessment 2. analysis of consequences for impacts on hist. and aesthetical values must come before economic decisions concerning employment, loans and ecological sustainability	before 2005 continued 2005-2020/ govt.	supporting system for conservation and development of cultural historical and aesthetical values in the built environment	" traffic -
in certain parts not sufficient legal protection of historical values in existing buildings	demolition and deterioration of heritage buildings	1. basis for decision for new law 2. changed law	research before 2005 before 2010	overview of legal framework increased possibilities to protect and develop historical buildings	" energy -
insufficient training of planners administrators consultants, craftsmen	continued possibilities to enhance and develop historical values	1. developing programmes for training 2. decisions re staff and training resources	before 2005 NHB, school dept, prof. organisations, labour unions building companies  2005-2020, annually	sufficient training increased possibilities to protect and develop ...	all +
lack of trad. building materials, original materials and techniques	unsuitable materials and methods make irreversible damage to cultural, and aesthetic environments	1. mapping of the market 2. suggestions for additions and marketing of the production	2005 NHB, SLU research Building market, municipalities, museums	increased possibilities for practical management of values and increased technical lifecycle	

In Canada, we have strongly embraced the need to link sustainability and conservation in planning and design, but we appear to fall short of achieving this goal in practice. This is well illustrated in an article written by Susan M. Ross for publication in the Heritage Canada magazine “*Saving Heritage is Key to Sustainable Development*”<sup>15</sup>. Ross notes in convincing fashion the ways in which sustainability and conservation can support each other.

*“The potential for heritage conservation to thus reinforce and expand ideas of green design by focusing on rehabilitating older existing sites is not yet fully understood. With respect to environmental protection, heritage conservation:*

- *Frequently involves densely developed sites, thereby reducing urban sprawl by efficiently using existing infrastructure and reducing demolition with its associated waste and landfill issues.*
- *Works with existing buildings and materials. This conserves embodied energy and reduces the need for new materials.*
- *Offers lessons in traditional models for climate adaptation.*
- *Contributes to developing a culture of repair and reuse.”*

*Regarding economic issues, heritage conservation:*

- *Saves demolition, land development and construction time costs. Contributes to developing life-cycle-based re-investment patterns. Helps retain or create high-skilled jobs. Helps preserve or develop regionally based self-directed and self-sufficient economies of resource use. Develops the market value of existing buildings and neighbourhoods.*
- *Contributes to economic development, such as cultural tourism.*

*With respect to social justice, heritage conservation:*

- *Contributes to understanding, preserving and developing communities. Develops local community identity, pride and cohesiveness. Preserves or provides lower cost rental housing and commercial space. Preserves or provides jobs, skills and public education.*
- *Encourages small-scale diversified uses and occupation.”*

Ross also recognizes that strengthening the connections between sustainability and conservation is a two way street, and that the heritage community needs to ask itself:

- *“How can we further contribute to environmental, economic and social sustainability? Do our projects promote the use of recycled and durable materials and techniques while considering embodied effects, performance and life cycle assessment? Can our work be more economical, based in local economics, investing in long-term durable solutions, contributing to broader economic objectives and policies?”*

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<sup>15</sup> Susan M. Ross, “*Saving Heritage is Key to Sustainable Development*” Heritage Canada. Spring 2006.

- *Do our projects involve the community and engage processes of local democracy and consultation and will they be accessible, provide needed functions and reinforce broader planning frameworks?”*

But Ross also cautions about limitations within applications of existing “green approaches” to historic structures.

*“Green building design, which relates to environmental sustainability strategies, promotes site reuse but is generally geared towards new building design. This tendency ignores the fact that conserving entire buildings for reuse is basically a stronger environmental strategy than recycling the materials salvaged during a demolition”.*

While Ross’ overview of the potential benefits of considering sustainability and conservation together is comprehensive, positive and convincing, her supporting case study (the controversial adaptive re-use of Red River College, Winnipeg) illustrates how easily LEED driven projects can achieve narrow energy sustainability goals and destroy heritage values.

While Ross suggests that the case study (“green building design incorporating heritage buildings”) is a “heritage conservation project with clear sustainability goals”, in my view, this is far from the case. In my heritage conservation cases at Carleton, I present this as an extreme example of how “sustainability” trumps “conservation” and destroys heritage buildings and values, particularly where the heritage community has failed to define what is being protected in a heritage place in any kind of defensible manner.

Leaving aside the question of the extent to which those outside the community are responsible for protecting threatened local heritage, Ross excuses limited scope of the designation here, stating only that “if the city designated only the façades because the streetscape is what was valued, it is important to consider the project at that level”. She edges into support for a limited designation however in further noting that “designating the façades alone has perhaps allowed for greater flexibility in changing the building's use and has thus increased the potential economic viability for the entire group of buildings to be reused” and that “spaces behind the façades were reconstructed to preserve the side and back wall but introduce new structure and a more homogeneous floor plane”.

These possible design advantages are described as if they could be understood to outweigh any commitment to protect the heritage values of the site, understood in their fullest sense. Ross is however critical of efforts to reinstate “elements of the designated interiors of the Exchange Building within the reconstructed shell”, noting that



*“in some cases salvaged character-defining elements are reinstated in new interior spaces, in others built fabric was treated as a source for recycling, to be reused as originally intended (brick in solid masonry walls) or in new ways (wood beams as benches).*

She suggests that *“the result, which may be confusing in expression, suggests the need for clearer guidelines on the treatment of architectural fragments, one that respects heritage value while offering opportunities for materials reuse”*.

Ross also acknowledges that in *“considering the specific value attributed to the façades, replacing all the original windows is problematic. Not all windows were in equally poor condition. Some could have been repaired, not only preserving heritage fabric but also reducing waste”* – a further illustration of the need for clearer guidelines.

The experience of Red River College is being repeated across the country on countless properties and occasions. Several years ago, I assisted a group of Westmount architects working on a prominent Westmount structure in Montreal to obtain planning permission for a number of additions to the house – only to be told afterwards that the architects had several million dollars in their budget to lift the building, replace all original foundations and to replace all original curved glass sliding sash windows on corner towers – in order to try to obtain the highest LEED rating for an historic building in the country.

What’s missing in the Red River College analysis and elsewhere where the energy or green sustainability option appears to overwhelm heritage structures? A clear statement of recognized heritage values and attributes, in line with contemporary holistic perspectives on identifying the relevant qualities of heritage - AND - translation of those values and attributes into relevant indicators. Conservation focused on facade retention for example, has long been understood as an unacceptable development-led pre-emptive compromise against any potential heritage constraints, emasculating the ability of a building to communicate its essence as whole, and an option which should be rejected out of hand in evaluating heritage.

What is needed first is to be sure an appropriate basis for heritage sustainability analysis is in place – and none of this is unusual in Canada’s (Historic Places Initiative (HPI) environment with its strong push for “statements of significance” - including effort to identify all key heritage values (architectural values, historic (including associative) values and contextual (setting, use, environmental) values) and the attributes (or character defining elements) which support, carry or express those values.

This base needs to be supported with a critical add on: *indicators* which would *objectively* clarify acceptable and unacceptable impacts of such changes on defined attributes from a sustainability perspective.

This means for example concern for defining in advance the degree of structural integrity which must be retained to sustain important architectural volumes and engineering performance, the degree of material retention which must be satisfied in order to sustain important historic fabric, and the degree to which substitution or replacement can be carried out while sustaining important architectural and aesthetic qualities. If such indicators are not in place, then the sustainability of heritage values and attributes can not be assured equal treatment as efforts to protect environmental, energy or green sustainability.

Only by bringing the measurement tools for heritage conservation sustainability to the same level of specificity as for green sustainability can clear ways to negotiate between and among competing sustainability objectives be achieved, and a level playing field assured.

## **Conclusions**

This short exploration of the relation between sustainability and conservation has demonstrated the desirability of finding comparable ways of “counting” within the two areas, and suggested the nature of measures to do this - obliging heritage professionals and advocates to more rigorously marry their statements of significance with carefully chosen indicators.

Those seeking a level playing field have also explored other approaches, including the adoption of a 4<sup>th</sup> sustainability pillar for culture. This has been a goal for some since the 1992 Rio “earth summit” meeting which left explicit references to culture out of the sustainability equation. The concern for culture has been picked up by many bodies informally and informally - from the World Bank to UN Habitat at the intergovernmental level and has found a home with the United Cities and Local Governments (UCLG) network established in 2004. However, these efforts have not won widespread global support. One source of reluctance has been the perception that a concentration on a 4<sup>th</sup> “silo” to compete with the three original silos will not necessarily assist efforts to work within an overall integrated approach to achieving sustainability goals.

National efforts in Canada to establish a 4<sup>th</sup> pillar for cultural sustainability have not yet resulted in greater success. Michael Harcourt (former Mayor of Vancouver, Premier of B.C.) following the Habitat 2006 meeting in Vancouver, sought to establish a 4<sup>th</sup> pillar for culture in the Vancouver based

Institute for Sustainable Cities but this did not bring about new initiatives or programmes at the governmental level.

Sustainability and conservation should involve complementary approaches to providing sensitive care for the various components of our natural and cultural environments. But I believe it behooves those of us on the cultural/ heritage side to recognize that the gap between the two needs to be closed with efforts on our part to establish more compatible ways of measuring, and which can support constructive resolution of apparently unreconciled objectives.

### **Final Word**

Several years ago, while serving briefly on the Board of the Heritage Canada Foundation, I was present during a discussion which criticized many “green” LEED projects which appeared to harm heritage values. Rather than join the chorus of smug dissent, I asked the Board members why Heritage Canada could not invent its own way of measuring and rewarding projects relative to heritage sustainability goals - not to give conservation objectives the upper hand – but to show how energy sustainability and conservation ends could be fairly and objectively reconciled. I still believe that this approach (promoting a different measuring yardstick) would be very worthwhile; it would strengthen dialogue and understanding across the environmental-cultural sustainability divide; it would strengthen the ability of heritage advocates to make their own sustainability cases on rational grounds; and it would move all of us closer to genuinely integrated sustainability.

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Note: This paper is a revised and updated version of a paper first prepared for a workshop organized by the Canadian Green Building Council, Ottawa region chapter, and held May 13, 2010. That paper (which was not given) had been titled Moving to big picture sustainability: fusing conservation and sustainability objectives.

## 4. TEXTES DES CONFERENCIERS / TEXTS OF THE SPEAKERS

### Session 1: Introduction à la Table ronde 2011: Déterminer la portée des questions Introduction to 2011 Round Table: Scoping the Issues

**Présidente / Chair:** Christina Cameron

Chaire de Recherche du Canada en Patrimoine Bâti, Professeure, École d'architecture et Titulaire,  
Faculté de l'aménagement

Chairholder, Canada Research Chair on Built Heritage, Professor, School of Architecture, Faculty of  
Environmental Design

Université de Montréal

**Rapporteur 1:** Natalie Whidden, étudiante / Student, Carlton University

### 4.1 RÉFLEXIONS SUR LA PRATIQUE DE LA CONSERVATION DU PATRIMOINE ET LA DURABILITÉ REFLECTIONS ON HERITAGE CONSERVATION PRACTICE AND SUSTAINABILITY

**Julian Smith**, Directeur exécutif, L'École des arts de restauration à Willowbank, Queenston  
Executive Director, Willowbank School of Restoration Arts, Queenston



**Julian Smith**

(Photo: Sh. Inanloo Dailoo, 2011)

## **ABSTRACT**

The relationship between heritage conservation practice and sustainability needs to be understood in historical context. Significant evolution has occurred in both areas over the last fifty years or so, but the evolution has occurred in parallel more than through convergence. Currently, the heritage conservation field is seen as focusing primarily on cultural resources, while the sustainability field seems to give priority to natural resources. Convergence is seen as a priority, by many, because it might give both groups more influence when countering the impacts of contemporary design and development.

This paper, however, argues that although convergence is good in theory, the more important issue is how each of these groups responds to the larger paradigm shift currently happening within the design and development field itself. Just as both the historic preservationists and the environmentalists seem to be establishing their credentials within the design and development arena, that arena is dissolving and reforming in ways that invite these groups to become participants rather than critics. Many of the regulatory frameworks put together so painstakingly over the last thirty years will be less relevant than the ability of both groups to become mainstream actors in mediated development models. This requires a shift in attitude, from a counterculture critique to a more creative and engaged mainstream role. If both groups, with their cultural and natural resource interests, are successful, they will converge not only with each other but with the larger world of contemporary development and change. This is ultimately the path to sustainability theory and practice.

## **TEXT**

In order to examine the impact of sustainability strategies on heritage conservation practice, it is perhaps important to consider more generally the recent evolution of two groups – the environmental movement, concerned with natural resources, and the historic preservation field, concerned with cultural resources. Sustainability can be seen as primarily associated with the former group, and heritage conservation with the latter.

Although there is a risk of oversimplification, this recent evolution can be roughly divided into three phases, which I will call, in turn, Establishing the Counterculture (the 1960s and 70s), Joining the Mainstream (the 1980s and 90s), and the Mainstream Transformed (the 21<sup>st</sup> Century).

## I. Establishing the Counterculture

A counterculture is a reaction to a dominant culture. In the 1950s, following the horrifying impact of the two great wars, there was a determined effort to create a modern, more universal, social order that would transcend some of what were perceived as the localized, tribal attachments that had led to national and international conflict. Modernist architecture and planning were part of this effort to reinvent the world in a new model. Despite its universalist credo, it was primarily a Eurocentric initiative although one that did gain wide international support.

Modernist design and development practices were in full force by the 1960s. Modernist theories were utopian in emphasis, hierarchical in structure, and gridded in conception. They were promulgated by academics and experts, theorists who were convinced of the need to discard old practices and create new modes of action. They lived on sweeping generalities, and operated at unprecedented scales of urban renewal and suburban expansion. It was a top-down approach, guided by university-educated professionals. Urban and regional planning emerged as a key discipline in the reshaping of the land. Zoning was the tool of choice, reflecting the utopian underpinnings of the movement and creating logical, rational subdivisions of space in an essentially two-dimensional matrix. There was a tendency towards uniformity and monoculture.

Overall, the period was marked by an obsession with the object – its identification, inventory, and classification. The two stereotypical institutions were the museum and the university – the former collecting cultural objects in climate-controlled containers, and the latter codifying knowledge in printed form and basing advancement on publication record.

Against this backdrop, both environmentalists and historic preservationists began to build coalitions, with the goal of stemming the tide of modernist paradigms of urban renewal and suburban sprawl. The environmentalists, for their part, sought to protect wetlands and fragile ecosystems and wildlife habitats and old-growth forests, all in danger of being flooded by the new tide of development. The historic preservationists sought to protect beautiful 18<sup>th</sup> and 19<sup>th</sup> Century courthouses and residences and religious buildings, similarly threatened. These countercultures were grass-roots organizations that depended on the mobilization of both amateurs and professionals to sustain their cause. They knew their viewpoints were counter to mainstream assumptions, and they adopted a variety of innovative tactics to attract media attention and popular support.

The intellectual underpinnings of both groups were based on organic rather than utopian world-views, a belief in the benefits of incremental growth rather than wholesale change, a confidence in the

benefits of researching and understanding existing communities and ecosystems, and a confidence in practice as an avenue to theory, rather than the other way around.

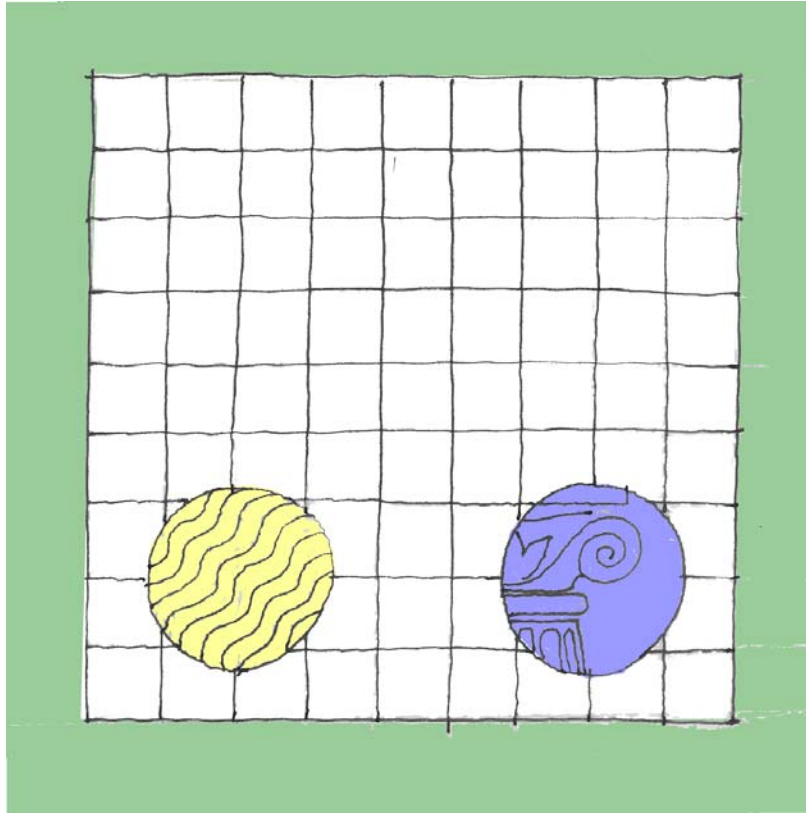
People involved in these countercultures had the benefits of the camaraderie and support of like-minded individuals, and the moral satisfaction of fighting the good fight against daunting odds. Many loose organizational structures were developed to reinforce group solidarity and to share experiences.

The following two images are meant to capture the spirit of this phase. The sandbagging image is a metaphor for the efforts to protect important resources against the flood of mainstream design and development activities. The efforts are scattered, intensive, and reactive. The diagram illustrates the grid of contemporary design and development within which the environmentalists and historic preservationists are attempting to carve out miniature countercultures that challenge the rational assumptions of the mainstream.



**Figure 1- Establishing the Counterculture.**

Protecting significant natural and cultural resources from the flood of modernist design and development.



**Fig. 2 Establishing the Counterculture**

Environmentalists (yellow) and historic preservationists (blue) carving out a place for themselves against the grain of modernist culture. (Drawing by the author.)

## II. Joining the Mainstream

The second important phase was the legitimization and formalization of both groups in the 1980s and 1990s. The process began in the 1970s, with initial legislation to establish environmental assessment procedures, and to allow the designation of historic places. The idea was to afford protection and discuss mitigation measures whenever design and development pressures were seen as threatening.

Both groups assumed that the way to move forward, to gain power and influence, was to insert themselves into the structure of the mainstream world around them. To do that meant to accept many of its practices and principles.

Both groups began to engage in extensive inventory, documentation and classification procedures. This led to an object-focused approach, sympathetic to the rational grid they were moving into, with clearly delineated boundaries to designated areas. Both groups moved into the legal framework of zoning bylaws, and related variance and approval mechanisms. Both embraced the court



system for legal challenges and debates, using their newly-minted legislative gains. Both groups began to shift to an emphasis on theory rather than practice, as demanded by mainstream culture. University courses and diplomas and degrees in environmental studies and in historic preservation sprang up across Canada and North America. Expert witnesses became part of legal challenges. Both groups began to discuss accreditation measures for establishing professional legitimacy. Academic conferences, publications, and other attributes of educational legitimacy became common.

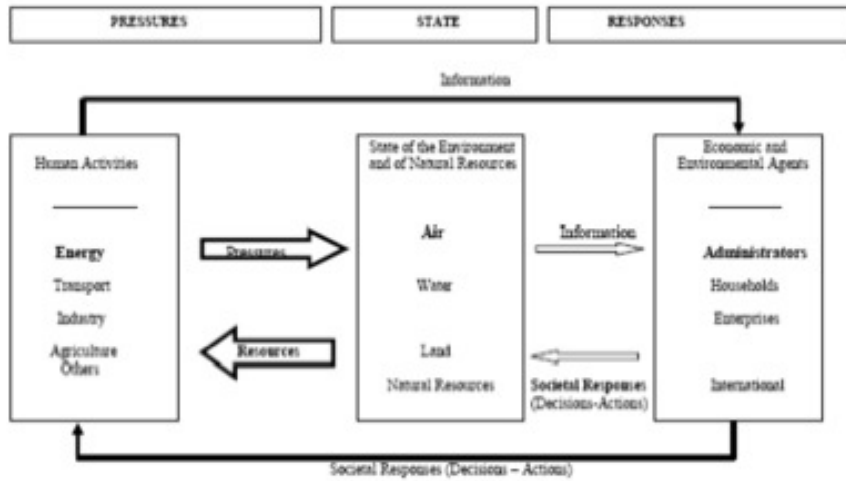
For the environmentalists, LEED became a very important tool for entering mainstream design and development. It was quantitative and scientific, based on theoretical models, and easily adapted to the design/bid/build system of modern design and construction. It was utopian, and hierarchical, and rational. It was supported by academic research and publication. It gave the environmentalists a strong presence at the centre of contemporary design and development. At the same time, environmental assessment requirements put natural resource conservation within the permitting framework, and gave environmentalists access to legal challenges and penalties.

For the historic preservationists, formal designation and design review became their most important tool for joining mainstream practices. Designation was initially on a building-by-building basis, celebrating the building as an object in the modernist sense. Designated districts were viewed essentially as collections of buildings, and the process of getting to district designations was to evaluate every building, create a hierarchy of perceived value, and then draw the boundaries around the high-value buildings. As with the LEED system, the designation and review process worked reasonably well within the design / bid / build system. And historic preservationists were able to insert cultural heritage impacts into many EA procedures, giving them a similar access to legal remedies additional to those available under heritage legislation.

The most recent changes to the Ontario Heritage Act, in 2005, reflected this larger trend towards imitating the mainstream framework. These changes included stricter rules related to designation, and more rigid requirements for the management of historic districts. Heritage places became ever-more distinct objects within an object-oriented landscape.

Although both groups were inserting themselves more forcefully into the mainstream processes, there was still an assumption of opposition. It was often assumed that designated buildings and districts were to be protected from contemporary interventions, and designated natural areas from human activity. The idea was to create distinct, if compatible, realities.

Pressure – State – Response Framework

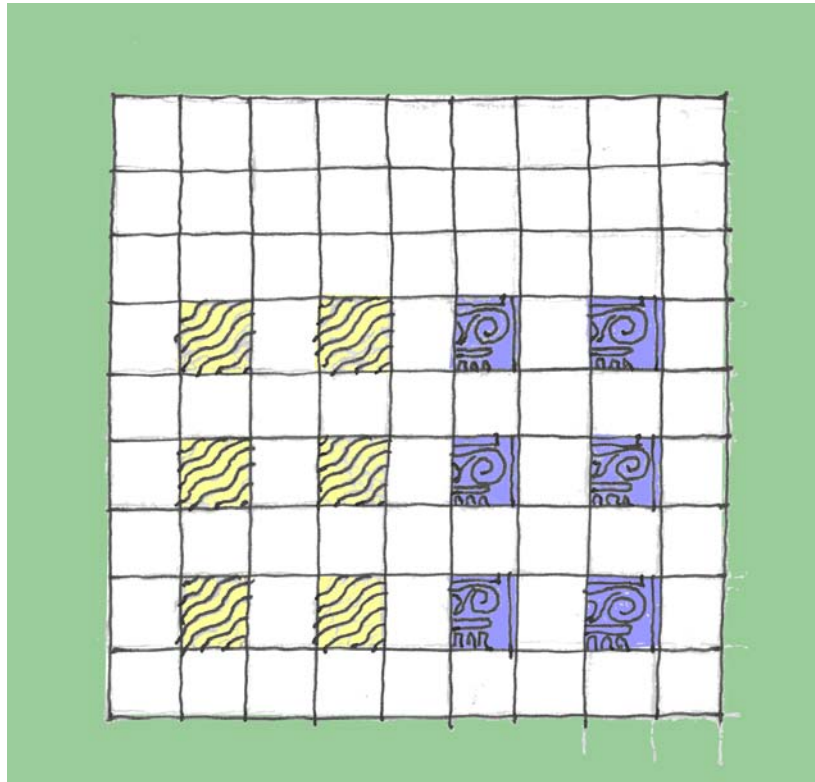


ACTIVITIES				
Protected buildings	To what extent does the society actively protect historic buildings? To what extent does the society actively protect valuable buildings in towns?	total no of buildings protected through law level of protection, county, municipality number of protected buildings in towns building type, age, form of protection and regional data	statistics	NHB, survey, municipalities  survey, municipalities and the NHB, national building register

Importance of cultural environment in the physical planning	To what extent is the historical aspect of the town considered in planning and building?	number of municipalities with staff competence in the field or the ability to contract with museums or other sources of conservation competence	statistics	NHB, survey municipalities
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**Figure 3- Phase II: Joining the Mainstream.**

Two examples used by Herb Stovel in an analysis of sustainability and heritage conservation. Both exhibit the quantitative, expert-driven, legalistic framework favoured by the mainstream and adopted by environmentalists and historic preservationists. The upper chart, from an OECD study, shows natural resource conservation as a measurable issue of human impact on natural resources compensated for by human mitigation. The lower chart, from the Swedish Heritage Board, shows cultural resource conservation as a measurable issue of number of properties designated and professional expertise available for its protection.



**Figure 4- Phase II: Joining the Mainstream.**

Both the environmentalists (yellow) and the historic preservationists (blue) work hard to adapt their concerns to the framework of the dominant design and development approach, which continues to be relatively formal, object-focused, and legalistic. (Drawing by the author.)

### III. The Mainstream Transformed

Just as the two groups are finally having success – inserting their concerns into the larger social, cultural, and economic realities around them – these realities themselves are starting to change. With the dawn of the 21<sup>st</sup> Century, the world as they knew it is falling apart just as they are becoming full partners. And in some ways, both groups have only themselves to blame.

This change has been correctly identified by Gustavo Araoz, President of ICOMOS and advisor to UNESCO, as a major paradigm shift. The important characteristic of this shift is that the design and development framework as a whole is being reassessed. It is starting to take on some of the fundamental aspects of cultural and natural resource conservation in their original, Phase I, form. The messages of these two groups are finally being heard, and the result is a reshaping of the context within which they operate.

It is not that the historic preservationists and the environmentalists are joining forces and becoming unified, although this has been the hope of many. It is that both are meeting, not as countercultures, but as new partners in a fluid landscape that includes the whole contemporary design and development field.

There are some in these groups who are uneasy with the new alliances. For them, the new reality blurs the boundaries of their concerns and leaves them less easily identified as pressure groups with clear goals and objectives. It removes the easy 'us versus them' scenario, and removes the useful label of the evil developer. However, these groups cannot afford to be too critical, because the paradigm shift is to a large extent the result of their own efforts.

What are the characteristics of the new paradigm? It involves moving from a more static, object-focused perspective to a more dynamic, ecological perspective. It involves moving away from the importance of inventorying, evaluating and designating objects to understanding their context: physical, social, cultural, economic. It involves understanding diversity rather than homogeneity as a healthy aspect of ecological balance. It involves moving away from the win or lose framework of legal controls to the more open-ended process of mediation. It involves moving away from the design / bid / build paradigm to a more integrated view of design-build. It involves less reliance on theory, and on the academically-trained expert, and more recognition of practice, and traditional knowledge, and community-based design and development. It involves moving away from utopian models, and a reliance on zoning, to more organic and incremental models of growth and development. And finally, it involves integrating new and old, treating contemporary design layers as additional richness within the historical layering of existing places.

The voices of the aboriginal community, particularly in Canada, have had a profound effect on this paradigm shift. There have always been challenges from this community of many of the basic assumptions of Eurocentric culture, but only recently have these challenges been heeded to any significant extent. In terms of natural resources, they have challenged the separation between humans and the rest of nature, fundamental to the environmental movement as illustrated in the table above, and insisted that true environmentalism is only possible when our species is treated as an integral part of any ecological model. And on the cultural resource side, they have challenged the separation between past and present, and argued that past artifacts are only given meaning through contemporary practice, and that if cultural heritage is not dynamic then it dies.

Most importantly, in the aboriginal perspective, the starting assumption that nature and culture are different is false. And we are not outside either one. We are nature, we are culture.

Within this perspective, the field of design and development is necessarily about natural resources and cultural resources by default. And this is being gradually accepted by the dominant culture, and resulting in the emergence of a more holistic and integrated view of how to move forward. In this paradigm, the distinctiveness of the environmental argument and the historic preservation argument becomes blurred.

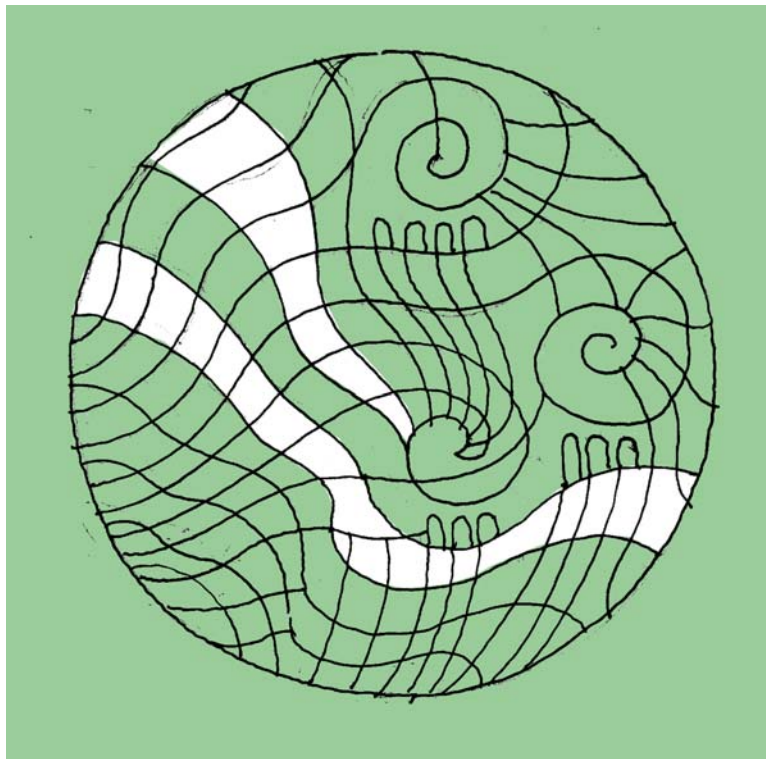
This is the message of sustainability. Sustainability is not utopian, it is organic. It moves beyond LEED and LEED EB (Existing Building) and LEED ND (Neighbourhood Development), and it moves beyond designated buildings and historic districts and mandatory intervention reviews. It is about understanding what exists and intervening in ways that make that reality healthier and more balanced. It is ecological in the sense that humans are part of the ecological equation. Sustainability is not a theoretical proposition, but a practical one, and its success will not be based on expert predictions or abstract models, but on empirical learning and the transfer of traditional knowledge to contemporary contexts.

Cultural landscape theory and practice are about this new paradigm. The idea of cultural landscapes emerged in the early 20<sup>th</sup> Century within the field of cultural geography, but it is only recently that it has begun to play a role in design and development. UNESCO adopted cultural landscapes as a typology to deal with sites where culture and nature were inseparably melded, and it has proven to be a typology with special resonance for indigenous communities around the world. Cultural landscapes are cultural ideas embedded in a place, and they exist as much in the cultural imagination as in the physical world. They are mapped by ritual and marked by artifacts. They are maintained by traditional knowledge but open to contemporary layering.



**Figure 5- Phase III: The Mainstream Transformed.**

This poster for the 2011 annual conference of the Canadian Museum Association perhaps indicates an awareness of the new paradigm, and the advantages of understanding it and adapting. How museums will fare is an open question.



**Figure 6- Phase III: The Mainstream Transformed.**

The distinction between the environmentalists (yellow) and the historic preservationists (blue) begins to dissolve into a shared green, and both lose their distinctiveness as the entire context begins to transform. But the responsibility is in some ways their own: the new reality reflects their original arguments, about a more sustainable way of viewing the design and development field. (Drawing by the author.)

#### IV. Conclusion

Phase III is in its early stages, and its acceptance is by no means widespread. However, there are signs of its growing importance. In the contemporary planning field, for example, the current academic debate in the U.S. is between proponents of the New Urbanism, on the one hand, and Landscape Urbanism on the other. Both reflect a new interest in historic preservation influences, in the case of the former, and environmental influences, in the case of the latter. But both are only mileposts on the way to something that actually works, because neither one is able to deal with existing settlements and adopt organic models of growth. Instead, they are both greenfield and utopian models that are attempting to integrate what they understand as critical concerns for a new generation.

The legal framework for design and development is also still based on many old assumptions, and in particular the separation of design activity from building activity. Schools of planning and architecture are searching for ways to integrate environmental and historical concerns into their curriculums, but there is still a fundamental assumption that design must be completed as an abstract exercise, and codified, and put on paper, and reviews and approvals completed, before permits can be issued and construction can begin. Similarly, there is still an assumption that zoning bylaws are the fundamental planning tool moving forward. In both cases, these procedures exist within a highly regulated legal system.

Willowbank is an example of an institution that is committed to the new paradigm and all its consequences. It operates completely outside the college and university system. It sees itself in some ways as providing an alternative approach to architecture and planning. It trains people to be master builders, in a tradition that is as old as human activity but made legally problematic by modernist philosophy. It trains people to be as comfortable repairing the old as designing and building the new, and involves students in researching historic places as a prerequisite to designing appropriate contemporary layers. It puts equal emphasis on theory and practice, and it teaches using both apprenticeship and academic models. Students are as comfortable in steel-toed boots and hard hats, out in the field and in the Willowbank workshops, as they are in classroom seminars.

Because Willowbank has no permanent faculty, the students work with more than fifty different mentors, a number of whom are aboriginal. They learn to think of the world in non-hierarchical terms, an essential prerequisite for understanding the new paradigm. The Board of Directors is also diverse and engaged, reflecting a broad cross-section of relevant expertise at the national and international level.

Although Willowbank is a young school, the success of its graduates confirms for us the fact that the new paradigm is taking hold. Graduates are working as stone masons and carpenters on National Historic Sites, as project managers for major conservation and adaptive reuse projects, as designers and advisors for developers, as senior heritage planners in municipal and provincial governments, as independent designers, and in major architectural offices. In almost all cases, their successes come from their comfort in moving across boundaries that were perhaps becoming overly-rigid and counterproductive.

This spring Willowbank is announcing the creation of a Centre for Cultural Landscape. This will provide a more visible external presence for Willowbank in the discussion and debate about the new paradigm.

In closing, it is interesting to look briefly at UNESCO's most recent International Recommendation, which is still in draft form. It is the recommendation on Historic Urban Landscapes, and it is the clearest indication, at the international level, of what is here being called Phase III, or the new paradigm

The definition of a Historic Cultural Landscape, in this document, is the following:

*The historic urban landscape is the urban area understood as a historic layering of cultural and natural values, extending beyond the notion of "historic centre" or "ensemble" to include the broader urban context and its geographical setting.*

This definition clearly embraces both nature and culture, and moves beyond the focus on designated and legally-defined 'historic centres'.

The following are some additional excerpts:

*This wider context includes the site's topography, geomorphology and natural features; its built environment, both historic and contemporary; its infrastructures above and below ground; its open spaces and gardens; its land use patterns and spatial organization; its visual relationships; and all other elements of the urban structure. It also includes social and cultural practices and values, economic processes, and the intangible dimensions of heritage as related to diversity and identity.*

*This definition provides the basis for a comprehensive approach for the identification, conservation and management of historic urban landscapes within an overall sustainability framework.*

*The historic urban landscape approach aims at preserving the quality of the human environment and enhancing the productivity of urban spaces. It integrates the goals of urban heritage conservation with the goals of social and economic development. It is rooted in a balanced and sustainable relationship between the built and natural environment.*



*The historic urban landscape approach considers cultural creativity as a key asset for human, social and economic development and provides tools to manage physical and social transformations and to promote harmonious integration of contemporary interventions.*

As can be seen, this document exhibits many of the key concepts described above as a new phase for both environmentalists and historic preservationists. The document is controversial, and may yet be sidetracked before it reaches the UNESCO General Assembly in 2011. However, it is a document which reflects the future, and which speaks to a generation that has grown up with ideas of sustainability and ecology and interdisciplinarity as integral parts of how we must move forward.

It is also important to note that the World Bank is now joining forces with UNESCO, in the spirit of this new Recommendation, to explore the application of cultural landscape theory to its own economic development models.

To return to the theme of this roundtable, the question is perhaps not so much what the relationship may be between heritage conservation and sustainability, but what the relationships may be, individually and jointly, between these fields and the emerging new paradigm of design and development more generally.

**Session 2: La relation entre le développement durable et la conservation du patrimoine  
Relationship between Sustainable Development and Heritage Conservation**

**Présidente / Chair:** Claudine Déom

Professeure adjointe, École d'Architecture, Faculté de l'aménagement  
Assistant Professor, School of Architecture, Faculté de l'aménagement  
Université de Montréal

**Rapporteur 2:** Lashia Jones, étudiante / Student, Carlton Univeristy

**4.2 LA DURABILITÉ ET LA CONSERVATION DU PATRIMOINE: ARTICULER LA  
RELATION  
SUSTAINABILITY AND HERITAGE CONSERVATION: ARTICULATING THE  
RELATIONSHIP**

**Sean Fraser**, Gestionnaire, Acquisitions et Services de conservation, Fiducie du patrimoine ontarien  
Manager, Acquisitions and Conservation Services, Ontario Heritage Trust, Toronto



**Sean Fraser**

(Photo: Sh. Inanloo Dailoo, 2011)

## ABSTRACT

The Ontario Heritage Trust has a statutory mandate to conserve both cultural and natural heritage. This facilitates the sharing of developments and innovative approaches that arise in each of these two sectors. The Trust advocates that the point of intersection for natural and cultural heritage conservation is the hybrid field of sustainability. It is important to look closely at the definition and objectives of sustainability because economic interests do not always support the conservation ethic of “do no harm”, but rather promote an approach that encourages demolition, new construction and consumerism in the guise of sustainability. In the natural heritage community the concept of biodiversity dominates the current agenda not only in Canada, but worldwide. Similarly, we are awakening to the parallel concept that cultural diversity needs to be preserved, enhanced and celebrated. In the environmental movement strategies for protecting and regenerating species at risk, controlling invasive species and preserving habitat form the environmental priorities of governments, and non-government organizations. However, in the built heritage community there is no such consensus, legal framework or scientific strategy to prevent cultural extinction on global, national or local scales. Central to the concept of built heritage conservation is the importance of traditional trades and skilled labour in the repair and preservation of period architecture. The emphasis on labour intensity highlights the inherent environmental benefit of built heritage conservation and needs to be better promoted. By better understanding our cultural heritage we may be able to avoid the mistakes of our predecessors who fell out of balance with nature and ultimately failed the test of sustainability. This paper is an exploration of a series of important cross fertilizations between natural and cultural heritage, which ultimately informs our understanding of the shared objectives of sustainability, environmental stewardship and conservation.

## TEXT

The premise of this paper is that natural heritage conservation (or environmentalism) and cultural heritage conservation intersect in the field of sustainability. Since the amendment of the *Ontario Heritage Act* in 2005 the Ontario Heritage Trust has had an official statutory mandate to identify, protect, preserve and promote both the natural and cultural heritage of Ontario. The Trust has been actively integrating these two disciplines and seeing linkages between the sectors that can help strengthen both. To better understand its relationship with sustainability the cultural heritage community needs to better understand the environmental movement, its successes, its current priorities

and its core ethic. In the natural heritage community the concept of species at risk is not only well understood, but in many jurisdictions specific legislation exists to help tackle the emerging issues of species extinction, invasive species, and declining biodiversity. Loss of habitat, climate change, and declining biological diversity are recognized as the critical challenges facing life on earth. We are prepared to take extraordinary measures as a society to preserve and restore declining species and ecosystems because we understand that individual species are connected to broader systems and have an impact on all inhabitants of this planet. What about the sustaining impetus behind culture, collected or traditional wisdom and cultural diversity? The cultural wisdom of the human species needs to be seen as part of this environmental crisis especially in light of the traditional wisdom and inherently sustainable principles deeply incised in some of our historic life ways. This common sense approach to the environment offers us an unselfconscious conservation ethic and one with simple, pragmatic and sustainable benefits that should be obvious to everyone.

Unlike cultural heritage planning we generally protect the natural heritage using broad regional approaches and policies that link jurisdictions and integrate stewardship responsibilities. The Niagara Escarpment is a geological formation in southern Ontario that runs from Queenston on the Niagara River to Tobermory in Lake Huron and on to Manitoulin Island more than 1200 km to the north. It features complex and rare ecological systems that supports a large number of species that are at risk of regional extirpation and in some cases global extinction. Species on the Escarpment, such as the stunted cliff cedar (Figure 1) the oldest of which germinated more than 1,500 years ago, are unique to this area. The Niagara Escarpment is an excellent example of the targeted and long term approach of the Ontario government in developing a planning strategy to improve the environmental stewardship and conservation of a specific geographical area. The full length of the escarpment is subject to the Niagara Escarpment Plan (<http://www.escarpment.org/landplanning/plan/index.php>) which overlays all other planning jurisdictions and controls development while encouraging conservation and prudent stewardship. Within this UNESCO World Biosphere Reserve public and private government and non-government organizations on the Escarpment cooperate to secure lands for conservation and recreational purposes. There are a number of other regional plans in Ontario such as The Oak Ridges Moraine Plan, the Greenbelt, and the Lake Simcoe Protection Plan. Perhaps there is a need for regional targeted plans for cultural heritage that take into account the historical development of the province, the distribution of historic places as well as the nature of current threats to cultural heritage systems. Especially for large cultural corridors (e.g. World Heritage Rideau Canal, Humber Designated Heritage

River or the National Historic Site Trent-Severn Waterway) there might be a benefit to integrating the various jurisdictions into uniform land use and management plans and authorities with conservation mandates.



**Figure 1- An Ancient Cliff Cedar Growing on a Rock Outcrop of the Niagara Escarpment,** which is a haven for this dwarf tree and large number of species at risk.  
(Photo Credit: Ontario Heritage Trust, 2007).

It is difficult to discuss the environment without an understanding of biological diversity. Simply put biological diversity, or biodiversity for short, is the sum total of species, the genetic range within a species, and the total number of specimens of each particular species within a given area. In non technical terms it is the web of life. Biodiversity is important because the greater the biodiversity the more resilient a system is to external impacts such as disease, climate change, natural disasters, and human impacts (e.g. pollution and habitat destruction). As all systems in nature are linked the failure of any one can lead to failure over a much larger range. So what about cultural diversity? Surely humans are part of nature, and consequently, culture needs to be part of a discussion of biodiversity. Wade Davis in his 2009 Massey Lecture *The Wayfinders* provides a series of accounts from around the world that highlight the urgent issues of declining cultural diversity and the loss of language. Fully half of the world's languages, most of them aboriginal, are threatened with extinction in our lifetime. This

potential loss is directly connected to the loss of traditional knowledge and wisdom assembled over tens of thousands of years of human cultural development and interaction with nature on this planet.

Within the subject cultural diversity no one could argue that built heritage isn't at risk. The CASO Railway Station (Figure 2) in St. Thomas, Ontario, is a massive landmark built almost 140 years ago. When it was saved from demolition and acquired by the volunteers of North American Railway Hall of Fame in 2003 it was quickly determined that the skills used in its construction had become extinct in Elgin County. It took a large scale trades retraining program based at the station itself to assemble enough local skilled labour to complete the restoration of the hundreds of wood frame windows alone.



**Figure 2- The Former Canadian Southern Railway Station Built in 1873 in St. Thomas, Ontario.** Restoration of this federally-designated and now provincially protected historic site started in 2007 and continues to this day using labour intensive traditional technology and trades. (Photo Credit: Sean Fraser, 2004).

The natural and cultural heritage sectors differ in the amount of supporting data and solid research available to assist with conservation and planning. The natural heritage sector has excellent data for almost every part of Ontario and in remarkable detail. By comparison there is a woeful gap in the development of comprehensive inventories and core research into the cultural heritage of the province. The *Ontario Heritage Act* encourages a bottom up or local approach to inventory development and



cultural heritage research. This means the local communities are required to undertake the surveys, field work and analysis that leads to the creation of local inventories. In the natural sector the province has provided a top down support system. Information is shared with local and regional stakeholders through the Natural Heritage Information Centre's comprehensive on-line ecological database and mapping service. No more evident is the gap between natural and cultural heritage information than in a recently completed comprehensive provincial inventory of religious heritage sites that was undertaken by the Ontario Heritage Trust ([www.heritagetrust.on.ca/placesofworship/](http://www.heritagetrust.on.ca/placesofworship/)). Prior to the inventory there were approximately 800 religious heritage sites recognized in the province as possessing heritage value. Through field work and research the Trust has found an additional 1,600 sites that possess heritage value equal or greater than those previously identified and for which there is no legal protection. Clearly there is a need for more comprehensive cultural heritage inventories and for information sharing with local and regional decision makers and stakeholders.

While cultural heritage conservation in Ontario remains a work in progress the environmental report card for the planet is not good at all. There is an overall dramatic global reduction in biodiversity and every living system on the planet is in decline. This decline includes threats from invasive species which have established themselves as monocultures and are forcing native species to the point of extinction. The loss of one species affects its system and all species are connected through shared ecosystems. While the introduction of all invasive species can be traced to human actions (accidental or planned) the more visible form of environmental destruction is loss of habitat for species at risk through development and land use practices that fragment habitat to the point that it becomes too small to support its native species. Some invasive control technology (e.g. herbicides and the introduction of competitor species, or biological agents) are also serious threats because they risk polluting the system we are trying to save or creating new problems from the introduced non-native or genetically altered species. In terms of invasive species in Ontario among the most destructive impacts is the spread of the species along trail systems carried by motorized recreational vehicles (e.g. dog-strangling vine), or in recreational boats that may cross contaminate isolated watersheds and lakes (e.g. zebra mussels).

Nonetheless, there is hope. Awareness of these environmental problems is high and political support continues to grow. There is significant public and private scientific research being conducted on the subject of species at risk, invasive species, and habitat restoration. There are international, national, provincial and local efforts to protect species at risk including the United Nations declaration of 2011-2020 as the International Decade of Biodiversity, *Species at Risk Act* (Canada, 2003). In

Ontario there has been considerable proactive work on this subject in recent years including: the *Endangered Species Act* (2007) and the Ontario Biodiversity Council Ontario Biodiversity Strategy Progress Report 2005 – 2010, creation of the Ontario Biodiversity Science Forum, Biodiversity Education Awareness Network and the Stewardship Network of Ontario. For natural systems, recovery strategies and habitat restoration can overcome extirpation and in Ontario the restoration of critical habitat and reconnection of these systems is being undertaken by private land trusts, conservation authorities, municipal and regional governments with the concerted legislative and financial assistance of the Ministry of Natural Resources and Environment Canada.

We can consider cultural heritage through the same lens as natural heritage. For instance cultural heritage sites, when considered by type, themes and form can be locally, regionally, and globally rare and endangered. Urban development, like an invasive species, is thriving and is a significant threat to cultural heritage preservation, especially cultural landscapes few of which are identified, understood, or recorded. Moreover modern development is rapacious, has no competitors or limits. As a monoculture, our towns and cities are losing their cultural diversity with the loss of every historic building or site. In addition, this loss erodes the sense of place, context and meaning ingrained in the fabric of the community. Like a monoculture in nature today's communities lack diversity and by extension may lack social and cultural resilience.

By promoting the idea that new architecture is more sustainable than historic architecture a new major threat to cultural heritage has arisen. Ignorance of these threats exacerbates the problem. Public opinion in Ontario is that properties that are designated are protected, funded and will be preserved. Consequently, there is an assumption that all heritage properties have already been identified and are now secure. Relative to the environmental community and environmentalism in general, the cultural heritage sector has a relatively small, ineffective political power base. One significant difference between cultural and natural heritage is that unlike natural heritage, which after being extirpated can be reintroduced, once lost a historic building or property can not be recreated it therefore is non-renewable. In general the cultural heritage community is fighting a rearguard action and does not have adequate knowledge and understanding of the problem. Perhaps we need to consider targeted preservation strategies for specific typologies, regions and forms of built heritage from a top down approach as is being endorsed by senior levels of government in their reintroduction strategies for species at risk.



In describing sustainability in an environmental perspective we understand that ecological systems can remain diverse and productive for millennia. For humans, sustainability is the potential for long-term maintenance of environmental, economic, and social well being. The most common definition we have for sustainable development comes from the United Nations World Commission on Environment and Development report known as *Our Common Future* (a.k.a. the Brundtland Report, named after Commission Chair, Gro Harlem Brundtland.) “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This sentence is most often quoted but there is additional language that really gives insight and context to the statement. Brundtland continues with: “It contains within it two key concepts:

1. the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
2. the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.”

When confronted by arguments for sustainable development that hinge on the need for a 50-storey condominium, or a big box shopping mall in a North American city it is important to keep in mind the balance and the intent of Brundtland and the use of the term sustainable development. Outside of the North American economy and culture the word development is used to specify the “social, economic and environmental enhancement” of the world’s poor and the underdeveloped nations and regions of the world. I prefer to discuss the words sustainability and sustainable outside the context of the often related, but misleading phrase - sustainable development. The latter term is a dangerous misnomer if not an oxymoron. Development implies growth and expansion while sustainability implies a balance or equilibrium. The terms are mutually contradictory and have come into use as an appeasement to the economic realities of our day, one in which an ever expanding economy is held above our survival as a species.

Perhaps the best place to start is by stating the objective. In this case, let us look at the terminology. I propose two simple definitions that are necessary in order to clarify the discussion:

*sustainable*: able to be maintained at a certain rate or level...conserving an ecological balance by avoiding a depletion of natural resources” (oxford)

*sustainability*: a state of equilibrium with in a closed system (scientific).

These definitions seem simple enough. Whether we choose the scientific or cultural one the basic assumption is that growth must level off and the impact of a sustainable society remains constant. Resources are extracted, mined or harvested at a rate equal to their replacement or renewal. What is particularly important about the second definition is the phrase “in a closed system”. The earth is a closed system with finite resources, limited space and a maximum carrying capacity for all species especially humans.

The common definition used in North America for development is the one we use to characterize urbanization of our landscape. We understand development in most parts of Canada in terms of high stakes speculative land development. It is the process of converting land to a new purpose by constructing buildings or making use of its resources. This is the so-called “highest and best use” economic planning model and it is most often lauded with such terms as “progressive”, “smart growth”, and “intensification”.

By considering the terminology of the conservation and development sectors it is easy to understand the distance we have to go to reach truly sustainable living. For several decades now we have talked about the “management” of cultural heritage resources, while increasingly the natural heritage or environmental sector has moved to the term “stewardship” especially where the resources are not being exploited and the approach is one of passive preservation or habitat restoration. Stewardship is a word that alludes to an inherited duty that must be passed on to subsequent generations, whereas management is an industrial or business term that denotes maximization, utilization and exploitation – a very difficult relationship and one that does not necessarily reflect sustainability. In land use planning the word “interests” is used instead of “values” and nature and culture are often referred to as “resources”. While it is rarely characterized this way, our late 20<sup>th</sup> century approach to land use planning /zoning has created monocultures in most of our communities. One big box store intentionally looks like the next, one suburban neighbourhood can easily be mistaken for all others. This speaks to a rejection of place in favour of placelessness, ubiquity instead of the vernacular.

Turning to the temporal horizon used to plan our communities and built environment the development industry remains securely rooted in two financial time constraints: the period required to see a return on investment, and, closely linked, the period of a mortgage. These two concepts have tremendous influence on our built environment. The time frames are rarely longer than 25 years or approximately the length of a single generation. A building must last for this minimal time period to

justify its existence and an investment must have achieved its full results. More commonly the period expected for return on investment is 3, 5 or at most 10 years. Understanding these business model is so important is because it determines the actuarial life cycle costing, and impacts the ultimate planned durability (or lack of durability) of our contemporary buildings. A conservation project that requires maintenance and amortizes its value over more than a hundred years doesn't fit the business and financial models.

Most of us are familiar with the best selling book the *100 Mile Diet* by Alisa Smith and J.B. MacKinnon. This record of an attempt to gather all of one's food from a region no further than 100 miles from one's home challenged people to rethink how they shop, what they eat and during which season. Effectively it hearkens back to the traditional wisdom of earlier generations who lived this way out of necessity. Since the middle of the 20<sup>th</sup> century western industrialized nations have disconnected from how food is grown and/or raised. This is exacerbated by a number of factors including: multinational food distribution cartels, freezer shipping, air freight, free trade and inequalities of wages on a global scale.

The live local movement and the slow food movement are closely linked. Believe it or not so too is heritage conservation. Our heritage buildings are predominately creatures of their localities. The crafts, trades, labour, materials and site are all of a place, which takes us to a consideration of labour. Labour is always a local resource. It is also the ultimate renewable resource – non-polluting, simple and accessible and the more labour intensive a project the more sustainable. Conversely, the more material, energy and transportation intensive a venture the less sustainable it is. As everyone in the cultural heritage sector understands the conservation of historic buildings requires continual maintenance and of course maintenance is labour intensive. Conservation also requires traditional trades, crafts and skills rather than replacement material and it limits the amount of material destined for landfill. Most modern architectural components can't be repaired. When they fail, like a sealed window, or mechanical ventilation system the entire unit is replaced. Those components are rarely manufactured in the immediate region, and are often transported from almost anywhere in the world thereby imbuing them with large environmental footprints and transferring economic spin offs to other communities. A higher percentage of a project's budget devoted to services, skills and labour means greater and faster economic spin-offs in the immediate community. If a building can be repaired using local simple technology that is labour based rather than material intensive then the likelihood of a building being maintained is much greater. The more prefabricated the construction and material intensive the design,

the less sustainable the project. By using sealed components that periodically have to be replaced we hide the environmental impact of a design. For instance if the energy efficient windows in a new building are expected to be replaced every 20 years then can we truly call the project sustainable when a different window system might last 5-10 times as long provided it is maintained? If new construction has a skills / labour to materials / merchandise ratio in its budget of 50-50 it is important to demonstrate that good conservation projects may have labour to material proportions that can easily approach 95-5. This is not how we have come to measure sustainable design or promote the importance of cultural heritage conservation, but it's time to start.

The approach of the 100-mile diet can be applied to architectural conservation. If we consider historic buildings to have been built using skills, labour and materials from the immediate region then both the original building and its subsequent conservation meet this test much more easily than does new construction. Historic buildings (those built prior to 1925) typically were assembled from local materials using local labour. The conservation of these buildings similarly requires specialized professionals and skilled labour more than it does new materials, manufactured components or prefabricated work. Indeed, on a conservation project the majority of the work is done on site and is tailored to the project. Finally cultural heritage sites through their historic values, design function and associations, often exhibit and demonstrate practical knowledge and wisdom that is unselfconsciously sustainable.

Traditional wisdom isn't always ancient and sometimes can be described as vernacular or simple common sense. At Fairbank Oil in Lambton County Ontario is a small commercial oil field that has remained in operation for more than 150 years. It is also arguably the birthplace of the modern global petroleum industry. Entire fields of wells are pumped from a single power source whose mechanical energy is shared efficiently by the walking beams, cables, rods, field wheels and jerker lines developed in the 1860s and still working, largely unaltered, to this day (Figure 3). This is an example of the common sense wisdom that is often associated with cultural heritage sites. These design innovations are typically lost or replaced by newer more energy intensive complicated and modern "improvements" that may not be as sustainable as the original solution. Extraction of the relatively small oil deposits in Lambton County would never be economically viable using modern industrialized methods employed on larger fields. However, authentic historical technology remains viable and as a side effect it is low impact, affordable and easy to maintain.



**Figure 3- Example of the mid-19th Century Designed “Jerker line”**  
A mechanical oil pumping system still use at the Fairbank Oil Heritage Conservation District, Town of Oil Springs, Lambton County, Ontario. (Photo Credit: Erin Semande, 2007).

Sometimes traditional wisdom is an ancient inheritance. This is best illustrated in the material culture, ethno botany and engineering genius of the First Nations. Looking at the aboriginal contributions in North America, the ancient designs of the snowshoe and the birch bark canoe have not been improved upon and can still be seen in their modern equivalents.

Some would argue that we have many comparable technological innovations in the modern cities and it is certainly true that the entire built environment exhibits high technology. But high technology is not necessarily wise building practice. Many consider the modern skyscraper an engineering wonder and through higher densities it is often argued that this is the most sustainable form of residential design. But taller isn't always more sustainable. Is a platinum rated green building really very green if you have to invest vast resources to mechanically ventilate and cool it? In a tall building, one over 8-10 stories, the convection force of the stack effect inhibit natural ventilation leading to an over reliance on mechanical ventilation. Furthermore, the low ceiling heights (2.4-3.0 m), inoperable or limited operable windows and complete inability to cross ventilate doom the building type from ever being able to use passive design advantages to cool it. Floor plans would have to be redesigned to provide 2 or 3 exterior walls for each unit. The projected cost of electricity is expected to rise

exponentially in the next few decades, but we are building towers that can't be unplugged. Density goals can be reached with more reasonable mid-sized buildings (8-10 stories maximum), higher ceilings would make for more livable passive environmental design and the structures need not be entirely clad with glass. Not only are these towers a challenge to cool and heat, but they also come with limited lifespan building envelopes that can't be maintained. Windows may last 10-20 years and a curtain wall system may last a generation but both must be fully recapitalized and replaced in relatively short time frames. With a failed envelop system that one can't afford to replace, and or no mechanized heating ventilation and air conditioning the residual building is a greenhouse – inhospitable and uninhabitable in both summer and winter. Without major rethinking of these shortsighted designs the fully glazed sky scrapers of today are destined to become the vertical slums of tomorrow – monuments to waste. When it comes to preserving monuments of the late 20<sup>th</sup> century unfortunately one of the associations we will one day note in our future statements of cultural heritage significance for these sites will be the architectural disconnection from the environment and the inherent lack of sustainability of this form of building.

The past holds secrets and lessons of sustainability for today and future. My understanding of sustainability, in fact my understanding of architecture in general is filtered through the lens of archaeology. I have had the privilege to travel throughout the world as a consultant, archaeologist, and planner and in those travels I have studied lost civilizations and the landscapes which we have inherited from them. On one level archaeology can be used to study those civilizations who failed the test of sustainability. The results may have been exacerbated by war, disease, natural disaster or other circumstances though it is altogether rare for one of these factors alone to destroy a culture completely. These factors are more commonly superficial symptoms of a culture's demise. And of course we are not talking about individual city state or specific nation, but rather whole cultures who may have shared philosophy, technology, social structure and mindset and who operated in what I describe as a generally closed system. I am influenced in this analysis by the writings of Jared Diamond particularly his book *Collapse – How Societies Choose to Fail or Succeed* (2005).

The first settlers of Easter Island arrived a little before A.D. 900. In only a few hundred years, operating in a fully closed system, the Easter Islanders developed a highly complex society and then in the mid 17<sup>th</sup> century it crashed. They failed the test of sustainability. In the decades leading up to European contact the native islanders de-forested their landscape leading to a failure of agriculture, starvation, war and annihilation. Failure to understand the fragility of their island system and a place

limits on growth lead to the collapse of this once great society leaving only a collection of colossal hand-carved stone heads scattered over the landscape.

Another example is that of the Viking settlers of mediaeval Greenland. Both coasts of this arctic island were settled by the Norse around A.D. 1000. The colony survived as a European outpost roughly until the mid 15<sup>th</sup> century when the last farmsteads were abandoned. In this instance the failure of the Vikings to overcome their European prejudices and a refusal to adapt to the local environment with its own resources, constraints and food sources led to their decline and the failure of the colony. Alongside the Norse the local Inuit thrived using a different hunting and fishing strategies, following traditions and lifestyles that had adapted to the environment over the millennia. The Norse insisted on cattle farming and permanent settlement. The fragile Greenland soils were quickly depleted and then eroded. They refused to fish, built labour intensive masonry architecture which tied them to permanent settlements while the Inuit followed their seasonal herds in portable shelters. Today the Inuit remain and all that is left of the Vikings are a handful of stone ruins.

In 1998 I visited Yemen as part of a cultural heritage conservation project. Yemen is located in southwest corner of the Arabian Peninsula and my preconceived notion of the place, based on experiences in northern Arabia, was that it was an arid desert where only marginal pastoral agriculture was possible. Much was my surprise when I encountered a lush and highly productive terraced landscape on the road from the coastal port of Al-Makha to the city of Ta'izz (Figure 4). Here amid the rolling hills the people of Yemen have developed and practised a form of highly sustainable land use for several thousand years working with seasonal rains, retaining topsoil, and exporting surplus food to other parts of Arabia. The historical reality is that South Arabia has fostered a several ancient civilizations going back to the early Neolithic era. Traditional terraced agriculture has been used for thousands of years and continues to this day. How long it will continue in an underdeveloped country under intense pressure to modernize at any cost is uncertain. Hopefully, this nation will be able to improve the lives of its citizens without losing its sustainable traditions or destroying the environment.



**Figure 4- Terraced Farming Landscape in the Southern Yemen Province of Ta'izz**  
Demonstrates the traditional wisdom of this sustainable land use practice (Photo Credit: Sean Fraser, 1998).

## **Conclusion**

The choice is simple. Find sustainable solutions like the terraced farming in Yemen, or live for the moment taking direction from Easter Island and Norse Greenland. A concept shared by environmentalists, and those who wish to conserve our cultural heritage is that we need to find a different way to live and relate to our environment if we are to survive as a species. It is now widely understood and accepted that humans are out of balance with the natural and cultural environment. While I don't know how we are going to get there I know what it looks like when I see it. It involves preserving and reconnecting with some of the lessons and values of our cultural heritage. I'm reminded of a 19<sup>th</sup> cultural landscape that has regenerated into upland forest in the Upper Credit River Valley in Caledon, Ontario (Figure 5).





**Figure 5- Ruins of Hoffman Lime Kiln, Forks of the Credit, Caledon, Ontario**  
Part of the sprawling historic industrial landscape reclaimed by the forest. (Photo credit: Ontario Heritage Trust, 2007).

Massive, almost cyclopean structures were erected as part of the resource extraction development of the valley in the second half of the 19<sup>th</sup> century. Narrow gauge railways were laid, villages founded, rivers dammed, kilns built and quarries excavated. In the end the entire landscape was radically transformed; however, this cultural landscape is slipping back into nature. The Credit River and millpond continues to erode the limestone walls of the stonecutter's dam, new sapling roots crack open the masonry joints, the last remnants of iron fasteners have been reduced to orange-brown crumbs. Long ago the massive old growth timbers rotted away to regenerate the soil with nutrients and conserve the biomass. When I visit this place I am reminded of the need to consider the monuments of our culture as potential ruins of the future gradually sliding back into the land from which they arose. I feel that this is necessary not for the picturesque aesthetic or because of romantic sentiment, but so that we may once again learn to tread lightly on this earth and leave it better than we found it.

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**Session 2: La relation entre le développement durable et la conservation du patrimoine  
Relationship between Sustainable Development and Heritage Conservation**

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**4.3 LA DURABILITÉ ET LA CONSERVATION DU PATRIMOINE: AMIS OU ENNEMIS?  
SUSTAINABILITY AND HERITAGE CONSERVATION: FRIENDS OR FOES?**

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(Photo: Sh. Inanloo Dailoo, 2011)

## ABSTRACT

The heritage conservation community has had a hard time communicating to the environmental community that both ‘art and science’ are needed in a preserved and sustainable world. There are hundreds of heritage technical committees, standards and guidelines, books and articles that include the word ‘heritage’ linked to the words ‘environmental’ or ‘sustainable’. The same search indicates that environmental experts are not spending much time trying to convince their peers that built and cultural heritage preservation is a pillar of global sustainability. Yet, man’s culture makes the food that feeds the world, and it is the transfer of knowledge, language and art that makes us whole within our natural environment. The built environment is the lasting heritage of living peacefully in groups, and it inspires us to continue to be makers of culture, and to celebrate life. Without a clear and world-wide mandate for the preservation of cultural heritage, there will be few fertile or peaceful places for humanity, little material or spiritual culture to be preserved and remade. There will be few places for the tangible to house the intangible, no place for the spirit and no place for the spirit of place. Friendship is a requirement of overall sustainability, because unblended with cultural advocacy, the science and engineering of the environmental movement will not achieve holistic preservation of the earth that we know. What we as experts in human culture have to contribute is an awareness of the balance that must be struck between preservation and change. We know that this balance invigorates us as people and is critical to survival; we treasure the history of ideas and things that have lasted, and know that they inform our way forward. We have knowledge of how to make places and things that are worthy of the making within an ever changing world. This part of sustaining our shared past is as entangled with the future of the world as is sustaining water to drink.

There are laws in our own country, in our provinces and cities that celebrate the need to be green, and to preserve cultural and built heritage, to make our communities broadly accessible, and to encourage diversity. But these keys to overall sustainability are only tools in a toolbox that can be used or not used, depending on the perception of the strength of an immediate economic outcome. To some extent the means of achieving a sustainable end have been at odds with the conservation movement’s: legislation promoting intensification in cities has resulted in destruction of built heritage and landscapes, LEED point-making has to date virtually ignored the retention of built heritage and cultural heritage landscapes in their assessment of what is green or gold, environmental agendas have pushed to the head of the line instead of involving the heritage preservation agenda as a cohort of planning. We

have to be friends and tell our stories together, because the linkages are apparent and strong. I end with the goal of transforming systems of measurement of cultural heritage (not ‘resources’), and starting with LEED. A few points that the USGBC would be smart to incorporate to create a more sustainable environment.

## **TEXT**

I was asked to discuss the question, “Are the environmental and heritage conservation movements friends or foes?” From the cultural heritage perspective, the answer is still, ‘friends and foes’. In a round-table on the natural environment, the answer is still, ‘could you repeat the question?’ A one-day Internet search adds to the, ‘who is asking the question?’ question. There are hundreds of heritage technical committees, standards and guidelines, books and articles that include the word ‘heritage’ linked to the words ‘environmental’ or ‘sustainable’. The same search indicates that environmental experts are not spending much time trying to convince their peers that built and cultural heritage preservation is a pillar of global sustainability.

Is it vital and urgent to global sustainability that we address partnering and friendship between the cohorts? The answer is resoundingly, ‘yes’. Do we have equal voices in policy creation? No, because ‘nature’ is higher in the order of the crisis of concern, and ‘culture’ is second tier. Should we be friends if we are not equal in the race to sustain both the natural and man-made environment? I think we have to be ‘friends’, but like many relationships between peers the second tier is going to have to wedge itself to the front of a crowd to be noticed by those who, closing ranks, think they are benefiting by repeating that some messages are more critical than others.

The heritage community has not convinced the environmental crowd that the material and cultural environment are inseparable from the legacy that is the diverse and bountiful earth. Yet, man’s culture makes the food that feeds the world, and it is the transfer of knowledge, language and art that makes us whole within our natural environment. The built environment is the lasting heritage of living peacefully in groups, and it inspires us to continue to be makers of culture, and to celebrate life. Without a clear and world-wide mandate for the preservation of cultural heritage, there will be few fertile or peaceful places for humanity, little material or spiritual culture to be preserved and remade. There will be few places for the tangible to house the intangible, no place for the spirit and no place for the spirit of place. All that will remain is vague memory and a spent earth.

They need our friendship, because unblended with cultural advocacy, the science and engineering of the environmental movement will not achieve holistic preservation of the earth that we know. What we as experts in human culture have to contribute is an awareness of the balance that must be struck between preservation and change. We know that this balance invigorates us as people and is critical to survival; we treasure the history of ideas and things that have lasted, and know that they inform our way forward. We have knowledge of how to make places and things that are worthy of the making within an every changing world. This part of sustaining our shared past is as entangled with the future of the world as is sustaining water to drink.

The desire to conserve cultural heritage should be inseparable from the desire of those who are working for environmental conservation. On this increasingly unsettled globe we are both linked to those who strive for peace and human rights against regimes that deprive us of environmental, human and cultural sustainability. Yet, the big picture of a sustainable future for the human family is not an interdisciplinary one, and until it is, there is little hope of the planet being re-balanced. There can be no equilibrium struck between the earth and its eco-systems until the limitless thirst of nations to suck resources from each other, and from their own lands is stemmed, until the trump cards held by democratic and undemocratic governments alike give way to a balanced deck that links sustainability of culture and environment to social, political and economic sustainability.

There are laws in our own country, in our provinces and cities that celebrate the need to be green, and to preserve cultural and built heritage, to make our communities broadly accessible, and to encourage diversity. But these keys to overall sustainability are only tools in a toolbox that can be used or not used, depending on the perception of the strength of an immediate economic outcome. In environmental stewardship, all of the earth has become a resource to mine and then mitigate or manage. Canada has no shortage of examples of faint hope for landscapes that shelter mineral or gas deposits below. In our cities and towns (since the word ‘resources’ was added as suffix to the word ‘heritage’ in the 1980s), the resource of property density is more valuable than a historic place, because vacant land yields a new highest and best use of measureable economic value. In the face of that dilemma, and in the face of so many poor outcomes, we are ‘compatriots’ of environmentalists who have stood their ground on trying to change the measuring stick of value. We need to further our friendship there, sharing experiences and creating agendas to support each other.

Where we often diverge with the science and engineering of environmental sustainability is over the way to reduce energy consumption in the heritage environment. Let us agree that there are

three prongs to energy management: first human factors, and then, building factors, then human factors again. The heritage conservation movement understands that energy management initiatives can cause irreparable damage to existing structures. Even in the artifact conservation field, measures introduced as mandatory in the last part of the twentieth century have been judged to be overly aggressive and detrimental to material stability. Building requirements that promoted lack of transference of moisture and air from the inside to the outside of structures has upset the balance of systems and caused deterioration on a massive scale. The heritage community has spent three decades cleaning up after government funded energy-saving measures of the 1970s, that wrecked havoc on historic buildings and sites through the installation of unsuitable mechanical systems, building envelope retrofits, the sealing of naturally breathable materials, removal of windows, doors and roofs.

Contributing to the zeal of architects and engineers for energy conservation in new and conservation architecture in the 1970s-90s were multi-national purveyors of insulation, sealants and tinted glazing who did fabulously and still do; arriving in regular succession, sales agents provided invitations to hockey games, wine and cheese events, lunch-n-learns, slide shows, catalogues and samples. I am quite sure that the connection between oil prices, political unrest, innovation in manufacture of materials and the revisions to the Building Code were simply a ‘chicken and egg’ thing, but it was part and parcel of the change to an energy management philosophy that we, as students of history, should learn from as we enter another cycle of zealous acceptance of the ‘solution’ to problems that affect material culture.

There is a recognizable similarity between ‘then’ and ‘now’ in the tone of green manufacturing literature, the creation of ‘credits’ and ‘standards’ that we should understand as being natural to business and corporate sustainability. It is no accident that the environmental sustainability agenda has spawned an industry of immense proportion, nor that the sustainable environmental agenda was aroused in parallel with the development of innovations in manufacturing. In Canada, the agenda and the agents seem sometimes at odds with more conservative agendas when there is more to lose than to gain by associating ‘sustainability’ with economic growth, industry, jobs, and development in science and technology. The green part is recognized as important, just as the historic preservation part is, but it is thought at the same time to be ‘unrealistic’ and ‘weak minded’ in the face of having to mind the store of fueling construction in cities and extraction of resources at the scale of growth and stability that has been projected. The two corporate agendas have worked out a peaceful coexistence so that the two industries can proceed in parallel to create business. In fact, they feed off each other as we refine the

choices in the design of show-case buildings that pave the way for 72- storey glass towers that achieve Silver and Gold LEED standards; but, remember the black-window outcome of the 1970s, and be judicious in our critique of what could also be spin.

This does not mean to say that the philosophical or practical requirements of the environmental agenda have been bought out, not at all, but the corporate message is tuned to make us accept that ‘their’ progress in creating new products, will produce a more environmentally sustainable natural and material world.

As an architect, it was immediately apparent that the production of ‘green’ materials would co-opt the status quo, as well as the heritage preservation agenda. The corporatization of the sustainable agenda was instantaneous: “I don’t know why sustainability is considered anathema to business here, “I heard a consultant brought in from London England say in a high level roundtable, “we think of it as a boon to the economy in these difficult times. There are new things to be made, new processes to explore, a new knowledge industry to build”. And so it goes with the agenda in architecture and in engineering: new things to buy, a rash of publications to engulf the market, courses that we must take to be current, new associations to join, new mantras to cite to be green. It is an exciting time, but are we really working toward an outcome that we can trust? Is all this busy-ness and measuring leading to a sustainable future or is the idea of a sustainable world, the same as the idea of a peaceful world, one so fueled by business that we will never know for sure if we are being co-opted, or actually doing the right thing? The original goal seems old, and somewhat tangential again.

Tangible progress in the face of a tide of world-wide environmental calamity appear at the municipal level across Canada as we recycle and redirect waste in green bins and blue boxes, but there is a lazy understanding of where the contents go, why governments are now outsourcing garbage pick-up and an embarrassment about the cost. Dumps for organics have been sited in ways that pollute vulnerable neighbourhoods. Transit corridors sweep through expropriated paths wiping out parks, houses, schools, and landscapes; hydro corridors still wreck havoc with livestock and farmland, wind turbines begin to crowd out existing farms and sully vistas. The development of virtual touring by internet may be an antidote to the wasteful use of jet and automobile fuel that gets us where we want to go, but robs us of the insight that being in a place brings to our real understanding of what sound, smell, space, light and air mean to the preservation of place. Intensification in cities frees agricultural land from suburban development for a while for now, reducing the wasteful construction of unneeded infrastructure, but results in relentless development in other places at any cost. In response to Smart



Growth we have casually tossed away models of slow growth, low and mid-rise high density community and neighbourhood-centred planning. Lower scale and the preservation of existing buildings is pretty well out the window as the idea of HCD's is discussed as being, 'for old men'. In the service of 'Smart Growth', linked in words to the sustainability agenda, building to any possible height is now a 'right' of developers who are happy to march to the beat of that drum. Supporting an economic agenda of maximization of growth they are princes of industry, and they are always 'right' in a one-sided logic that will have a painfully predictable outcome.

Each of these strategies is a combination of good and ill: recycling doesn't get at the problem of over consumption or obsolescence in buildings or objects to begin with; substitute forms of energy do not address expanding rates of consumption; recording of images divorced from context does not enhance our understanding of the interrelation of buildings in their cultural landscapes and all tend to give credence to the sense that we are doing a good job at ensuring sustainability. Although each has the potential to lend strength to the environmental movement, each one has been manipulated to ensure the opposite: especially at the planning level, where the development of a high rise mono-culture without diversity of architecture, use, economic or cultural adjacencies is at odds with the goals of cultural sustainability and conservation of a rich or renewable fabric in the city, town or rural environment.

On the **Nature of Things**, "Save My Lake" episode on April 3, 2011, David Suzuki discussed the demise of Lake Winnipeg, the tenth largest fresh water lake in the world. In a carefully laid out plot leading to the reason for its degeneration into a body of water saturated by green algae swirls, it was revealed that the construction of the dams designed to keep water levels high have resulted in the water levels remaining at a constant flooded level in the vast Netley Marsh. The marsh's vegetative size was once over 75 square kilometres (the largest fresh water marsh in North America) and is now only 13 square kilometers. The Red River ends in the marsh; no longer subject to the yearly rising and lowering of the water levels at the head of the marsh, the marsh has died, because key periods of low water drying were no longer part of its cycle of life, and the grasses could no longer germinate, birds and animals had no food or shelter and left the area entirely. The marsh had been the filter of the organics flowing into the lake from the watershed. It no longer provides that filter and the lake and its natural ecosystems have effectively been strangled.

There are all sorts of things that influence the life of our cities and neighbourhoods, and when they are empty, when there is no sound, when there is wasted fabric instead of opportunity and

pedestrian life, we know that it has been starved of the cycles of rise and flow and variety of life and scale that is necessary to feed it. Our environments get dammed up, and become stagnant, there are no filters to collect the organics and transform or absorb the other incoming stuff; mono-culture drives other things out. The fish on Lake Winnipeg are fattened by the algae and over-gorge themselves; there is an environmental bust that is forecast, where the lake and the life in it will collapse entirely. This is an environmental cycle that should have been easy to predict through the discussion of outcomes by the scientific and engineering community but the business of dam building trumped that discussion. Both environmental and heritage conservation advocates have similar stories to tell. We have to be friends and tell our stories together, because the linkages are apparent and strong.

Wikipedia, on 02/03/2011 says:

***Sustainable Preservation** is a term often used by those who advocate historic preservation by promoting the position that preservation has tangible ecological benefits, on the basis that the most sustainable building is the one that is already built, and that historic buildings have advantages over new construction with their often central location, historic building materials, and unique characteristics of craftsmanship. Arguing for these connections is at least partially an outgrowth of the green building movement with its emphasis on new construction...the term 'sustainable preservation' is also utilized to refer to the preservation of global heritage, archaeological and historic sites through the creation of economically sustainable businesses with support such preservation, such as the Sustainable Preservation Initiative and the Global Heritage Fund.*

The tone may not have been meant to read this way, but the writer does seem to assume that the heritage conservation movement was not previously committed to ideas about sustainability in its philosophy and has 'jumped on the band-wagon' somewhat like a barnacle craves the succor of a mother ship. It doesn't suggest, 'mutually dependent advocates and friends', and makes us seem like opportunists. I think that this is part of the barrier that exists between the environmental and conservation movements as we try board a Sustainability agenda that does not presume that interdisciplinarity is a key to survival.

We have proven to be small players in the thirty-year drama that Herb Stovel's paper tracked in the development of the international Sustainability Agenda, inching toward the inclusion of cultural heritage sustainability within a previously environmental focus. At the same time, we have been trying to advance preservation of structures, landscapes and communities through changes of Regulation and Legislation in Planning, Culture and Environment at the provincial level. For us in Ontario, the Sustainability agenda has been inexorably linked to the management of resources of land and economic

development as much as protection of existing resources. The Provincial Policy Statement boldly states in 2.6.1 that, *‘Significant built heritage resources and significant cultural heritage landscapes shall be conserved’* and in 2.6.2 that, *‘development and site alteration shall only be permitted on lands containing archaeological potential if the significant archaeological resources have been conserved by removal and documentation, or by preservation on site’*. Section 2.6.3 indicates that, *‘development and site alteration may be permitted on adjacent lands to protected heritage property where the proposed development and site alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.’*

In a review of the decisions of the Ontario Municipal Board on the balancing of the prerogative of built heritage and cultural landscapes to remain in situ, and the balancing of the requirements of adjacent heritage properties to have a say in the development of adjacent lands, there has been an overwhelming ‘nay’ to heritage properties. The moral imperative is a bruising argument that sustainable development is dependent on Smart Growth, which maximizes high-density development in places where there is pre-existing infrastructure. As a result, all existing properties are at risk by their nature, and the heritage advocates are castigated for standing in the way of stewardship of the environment. Latecomers to the game of the Sustainability agenda, we are friends to few planners and developers, and struggle for an authentic voice in the move to develop our cities and towns. Sometimes there is a breakthrough project that quells the fire, but most often we are told that the balancing of overall objectives cannot include retention of heritage properties, or the culture of which they are a part, in the big picture of big cities, small world.

So the means of achieving sustainability may defeat the end for us here, and this is why we have tried to be friends, but are not friends. Similarly in policy making to the end of sustainability we have contributed, been consulted endlessly and left to dry. Visibly tired of losing, we are expected to, and often do, embrace with enthusiasm the chances that we are offered to be part of the big agenda, but we are still managed by others within an inch of our lives. At the municipal level it is called the ‘sticks and carrots approach’: hit them, then offer a carrot, hit them again. It hurts, but we are supposed to ultimately get used to it as Provincial Policy moves like Aslan across the face of the landscape. It is hard to be friends with those who treat you that way, and calling them ‘foes’ is a likely result. Especially when they say as you retreat, ‘what’s your problem?’

How to measure value, and whether it is ethical to do so has always been a source of philosophic, anthropological and artistic discourse. It is difficult if not impossible to measure the value

or benefit of tangible let alone intangible cultural heritage. Numeric scoring by category and averaging is anathema to the evaluation of art. But measurement of resource of deterioration, regeneration and benefit are the life- blood of environmental planning, science, engineering and economic impact. To catch up with the measurement framework, evaluation of heritage properties has become one of the primary activities of planning staff, grading one over another in face of an eventual necessity of attending the face-off with the OMB and politicians over what parts of which buildings can be sacrificed or fought for, which sites can be sold, which go on hold. Evaluation frameworks have become the key tool of managing change.

As structures of various dates are assessed, evaluation of suitability to achieve LEED (the USGBC rating system) standards sometimes is a major determinate of the benefit of retention. But the questions that are not asked by LEED are the ones that have to do with durability, the role of the structure in its community or cultural context, or the craftsmanship and ingenuity and beauty that it brings to its environment. Even after years of petitioning for additional ‘points’ for incorporation of historic structures into the New Construction Category, there are measly points only for such innovation, and an insufficient definition of ‘why?’ that could assist the development community or government owner to become part of the sustainable heritage process.

I end with the goal of transforming systems of measurement of our collective response to cultural heritage (not ‘resources’), starting with LEED. Here are a few ‘points’ that the USGBC could incorporate to create a more thoroughly sustainable environment as existing buildings are retrofitted and added to within the context of new construction activities.

1. One credit for demonstration of understanding the cultural heritage property and its context, and manifesting that understanding in a meaningful way (Figure 1).
2. One credit for preserving a streetscape in its entirety (Figure 2).
3. One credit for not interrupting views of other historic monuments, or interrupting existing contexts that have value to their community (Figure 3).
4. One credit for recognizing through an overall orthodox conservation approach, material that is rare, and embodies the energy of human craftsmanship (Figure 4).
5. One credit for ensuring the preservation of historic building interiors, not just exteriors, including their fixed and movable furnishings and collections in situ.
6. One credit for reuse, sensitive adaptation and preservation of materials and structures that would otherwise be considered obsolete (Figure 5).

7. One credit for providing employment opportunities for craftsmen and another for having them train apprentices to create local, high quality and sustainable employment in the sustainable preservation field (Figure 6).
8. One credit for the design and installation of mechanical and electrical infrastructure in heritage buildings in a way that ensures the sustainability of cultural heritage significance (Figure 7).
9. One credit for not robbing us of our cultural heritage landscapes (Figure 8).
10. One credit for promoting outreach, education and skills development in the continuing cycle of conservation of the material environment when the work is done (Figure 9).

Heritage conservation is green, conservation is interdisciplinary, conservation is people and knowledge and value that has a grounding in a philosophic embrace of ‘arts and science’ as friends not foes. We need to be there as equals before the world is saved, and those who think that we are not players, should make way and say, “I get it”.



**Figure 1- One credit for demonstration of understanding the cultural heritage property and its context, and manifesting that understanding in a meaningful way.**



**Figure 2- One credit for preserving a streetscape in its entirety.**



**Figure 3- One credit for not interrupting views of other historic monuments, or interrupting existing contexts that have value to their community.**





**Figure 4- One credit for recognizing through an overall orthodox conservation approach, material that is rare, and embodies the energy of human craftsmanship.**



**Figure 5- One credit for reuse, sensitive adaptation and preservation of materials and structures that would otherwise be considered obsolete.**

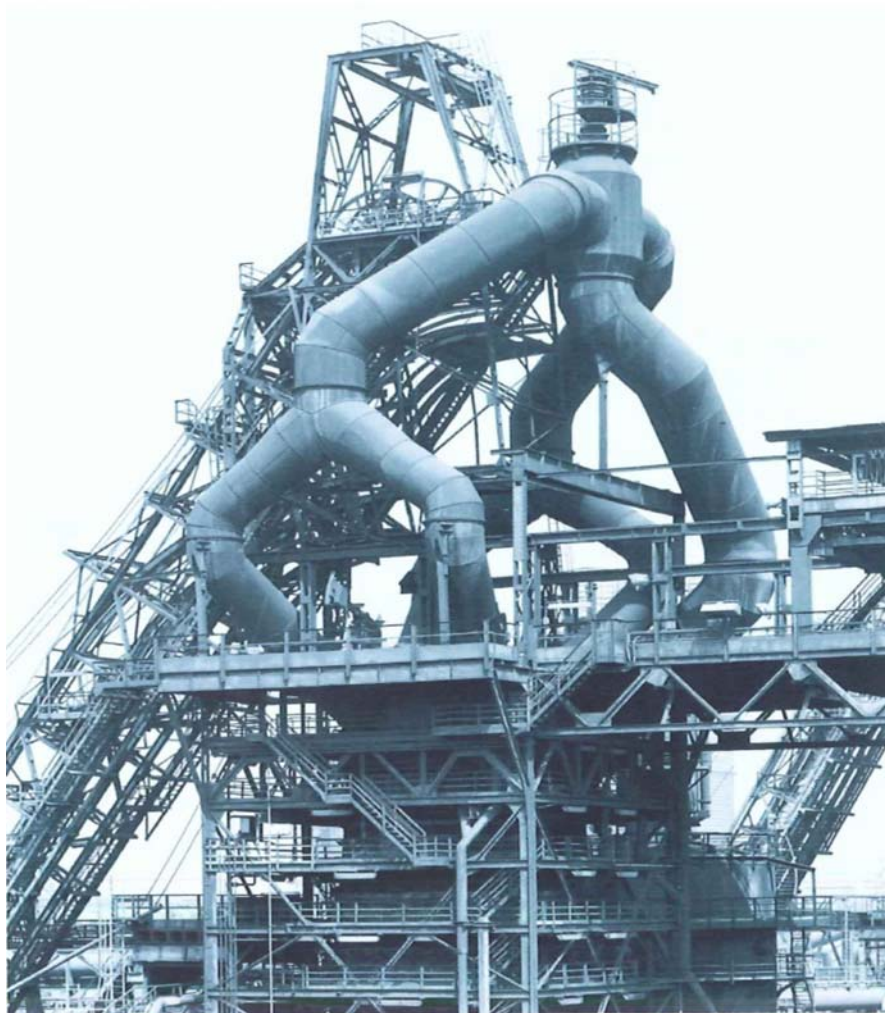


**Figure 6- One credit for providing employment opportunities for craftsmen and another for having them train apprentices to create local, high quality and sustainable employment in the sustainable preservation field.**



**Figure 7- One credit for the design and installation of mechanical and electrical infrastructure in heritage buildings in a way that ensures the sustainability of cultural heritage significance.**





**Figure 8- One credit for not robbing us of our cultural heritage landscapes.**



**Figure 9- One credit for promoting outreach, education and skills development in the continuing cycle of conservation of the material environment when the work is done.**

**Session 2: La relation entre le développement durable et la conservation du patrimoine  
Relationship between Sustainable Development and Heritage Conservation**

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**4.4 RÉSOUDRE LES DIVERGENCES D'INTÉRÊTS DE LA DURABILITÉ ÉCOLOGIQUE  
ET DE LA CONSERVATION DU PATRIMOINE: LE COMPLEXE BUCHANAN  
RESOLVING COMPETING INTERESTS OF ECOLOGICAL SUSTAINABILITY AND  
HERITAGE CONSERVATION: THE BUCHANAN COMPLEX**

**Martin Nielsen**, Architecte principal, Busby Perkins Will, Vancouver  
Architect, Principal, Busby Perkins Will, Vancouver



**Martin Nielsen**  
(Photo: Sh. Inanloo Dailoo, 2011)

**Session 3: La durabilité et la pratique de la conservation du patrimoine /  
Sustainability and Heritage Conservation Practice**

**Président / Chair:** Larry Ostola

Directeur général, Lieux historiques nationaux, Parcs Canada  
Director General, National Historic Sites, Parks Canada

**Rapporteur 3:** Marie-Andrée Thiffault, Étudiant / Student, Université de Montréal

**4.5 LE PROGRAMME DES TROIS « R » (RÉNOVATION-RESTAURATION-RECYCLAGE)  
À L'UNIVERSITÉ DE MONTRÉAL : ÉDUCATION NOVATRICE DANS LE  
DÉVELOPPEMENT DURABLE?  
THE PROGRAM OF THE THREE "R" (RENOVATION-RESTORATION-RECYCLING)  
AT THE UNIVERSITY OF MONTREAL: INNOVATIVE EDUCATION FOR  
SUSTAINABLE DEVELOPMENT?**

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**Dinu Bumbaru**, Directeur des politiques, Héritage Montréal et Président, ICOMOS Canada  
Director of policy, Héritage Montréal and President, ICOMOS Canada



**Julia Gersovitz**



**Dinu Bumbaru**

(Photo : Sh. Inanloo Dailoo, 2011)



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Director General, National Historic Sites, Parks Canada

**Rapporteur 3:** Marie-Andrée Thiffault, Étudiant / Student, Université de Montréal

**4.6 LE DÉVELOPPEMENT DURABLE ET LA PRATIQUE DE LA CONSERVATION DU  
PATRIMOINE: LES RÉSULTATS DE LA RECHERCHE DU NATIONAL TRUST FOR  
HISTORIC PRESERVATION  
SUSTAINABLE DEVELOPMENT AND HERITAGE CONSERVATION PRACTICE:  
RESEARCH FINDINGS FROM THE NATIONAL TRUST FOR HISTORIC  
PRESERVATION**

**Patrice Frey**, Directeur de recherche en durabilité, National Trust for Historic Preservation,  
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Director of Sustainability Research, National Trust for Historic Preservation, Washington



**Patrice Frey**  
(Photo: Sh. Inanloo Dailoo, 2011)

## **Session 4: Méthodologies et directives / Methodologies and Guidelines**

**Président / Chair:** Nicholas Roquet

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### **4.7 IMPLICATIONS DE LA NÉCESSITÉ DE DURABILITÉ DANS LES DIRECTIVES DE CONSERVATION DU PATRIMOINE IMPLICATIONS OF SUSTAINABILITY REQUIREMENTS FOR HERITAGE CONSERVATION GUIDELINES**

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## ABSTRACT

Heritage conservation is coming to be recognized as an important component of sustainable development. However, to date, very little attention has been paid to the question of how sustainability may influence and alter heritage conservation practices. The conservation sector has only recently begun to consider some of the broader implications of sustainability requirements for heritage conservation principles and guidelines.

This paper examines some of the ways in which sustainable development may shape the practice of heritage conservation through an examination of three documents: the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (United States), the *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment* (England) and the *Standards and Guidelines for the Conservation of Historic Places in Canada*; and a review of recent discussions about whether and how these documents respond to the goals of sustainability.

The three documents vary in their format, language and application, but are nonetheless comparable in that each employs a values-based framework and each includes definitions, treatment types, standards or principles, and guidelines. In each one, the standards or principles establish parameters for the stewardship of, and changes to, historic places and are formulated in ways that avoid prescribing single solutions to problems. The guidelines flow from the principles, and provide practical guidance on the application of the principles to specific issues. Updates to guidelines are routinely undertaken to reflect current practices, while updates to principles happen very infrequently.

The *Secretary of the Interior's Standards* has been in use for over thirty years and a conservation industry has been built around the document. There is, not surprisingly, a very cautious approach to making changes to its framework and standards. The Canadian document is more recent, but was closely modeled on the highly successful U.S. example, in particular its standards. The English document, the most recent of the three, was developed following a series of national policy discussions and debates on the issue of sustainability and heritage conservation and most explicitly recognizes the connections between the two areas.

This paper reviews some of the key issues that have been the focus of discussions to date, notably: the alignment of current trends in heritage conservation with the goals of sustainable development, the need to highlight and integrate sustainability goals within conservation principles, and the question of whether all conservation practices are, in fact, inherently sustainable.

# TEXT

## Introduction

“Today’s challenges require that historic preservation move beyond maintaining or recovering a frozen view of the past. Historic preservation must contribute to the transformation of communities and the establishment of a sustainable, equitable and verdant world by re-evaluating historic preservation practices and policies, making changes where appropriate.” (*Pocantico Proclamation* 2008)

Heritage conservation is coming to be recognized as an important component of sustainable development. However, to date, very little attention has been paid to the question of how sustainability may influence and alter heritage conservation practices. The conservation sector has only recently begun to consider some of the broader implications of sustainability requirements for heritage conservation principles and guidelines.

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This paper reviews some of the key issues that have been the focus of discussions to date, notably: the alignment of current trends in heritage conservation with the goals of sustainable development, the need to highlight and integrate sustainability goals within conservation principles, and the question of whether all conservation practices are, in fact, inherently sustainable.

### ***The Secretary of the Interior's Standards for the Treatment of Historic Places (1977, last revised in 1995)***

The *Secretary of the Interior's Standards for the Treatment of Historic Properties* was first published in 1977 to support a federal preservation incentives program, but was later adopted nationwide and by all levels of government for the purposes of assessing the appropriateness of interventions to historic places. It includes four treatment types: *preservation*, *rehabilitation*, *restoration*, and *reconstruction*, of which the best known and most frequently used is rehabilitation.

The approach set out in the *Secretary of the Interior's Standards* begins with the identification of the cultural significance of a property, its period of significance and character-defining features, finishes and spaces. The principles and guidelines associated with the relevant treatment type are then applied to projects to ensure that cultural significance and character-defining features are preserved. In establishing the assessment of cultural significance as the starting point and the preservation of significance as the goal, the *Secretary of the Interior's Standards* can be understood to employ a values-based approach.

The definitions and guidelines included in the current version of the *Secretary of the Interior's Standards* are broad and inclusive, and address historic properties, districts and cultural landscapes. Rehabilitation, the “act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural or architectural values” (Weeks and Grimmer 1995, 61), provides the flexibility that is required to enable places to evolve over time and be repurposed for new uses.

Discussions about the implications of sustainability requirements for the *Secretary of the Interior's Standards* were initiated by a group of around thirty experts from the historic preservation, green building and environment sectors, who first met in Pocantico, New York, in 2008, to discuss the relationship between green building practices and preservation. This meeting resulted in the *Pocantico*

*Proclamation on Sustainability and Historic Preservation*, a series of principles that were intended to facilitate the integration of sustainability and historic preservation policies, guidelines and practices.

One of the subjects discussed at the meeting was whether the *Secretary of the Interior's Standards*, themselves, required revision in order to better align with sustainability requirements. Key stakeholders present at the meeting – the U.S. National Trust and the National Parks Service, among them – took the position that the standards are both sound and flexible, and as such, are adequate as written (O'Connell 2009, 2). However, the *Actions to Further the Pocantico Principles on Sustainability and Historic Preservation* (2008) called upon the historic preservation sector to:

- Identify critical conflicts between sustainable design practices and preservation, and develop solutions.
- Integrate green design practices into preservation guidelines as part of a fresh look at the Secretary of the Interior's Standards by emphasizing ways to enhance building performance while protecting historic character.
- Create new *Interpreting the Standards Bulletins* on common issues related to sustainable design practices and historic preservation projects.
- Support research programs that explore new technologies for retrofitting historic structures and quantify the sustainability of preservation.

One idea proposed at the Pocantico meeting was to develop a rating system for preservation projects and places similar to LEED (*Leadership in Environmental Design*). Under such a system, iconic places such as Mount Vernon might rate *preservation platinum* and would not be candidates for heavy interventions to dramatically upgrade their performance and energy efficiency, whereas greater allowances might be made for lower ranked historic places (O'Connell 2009, 2).

At a follow-up meeting in Nashville in 2009, although the existing *Secretary of the Interior's Standards* continued to be considered to be appropriate, it was agreed that neither the standards nor the guidelines clearly address climate change and environmental sustainability challenges. Consequently, the *Nashville Challenge Action Items* (2009) made additional recommendations:

- Improve and strengthen the guidelines for the *Secretary's Standards for Rehabilitation* by addressing sustainability issues.
- Retain and reinforce the flexibility inherent in the standards, but including the concept of sustainability more prominently.

A group called the Spitfire consortium is now working on the action items from the Nashville challenge, including those related to the *Secretary of the Interior's Standards*.

***The Standards and Guidelines for the Conservation of Historic Places in Canada (2003, revised in 2011)***

On its publication in 2003, the *Standards and Guidelines for the Conservation of Historic Places in Canada* became the first pan-Canadian standards and guidelines for heritage conservation to be endorsed by all thirteen provinces and territories, the federal government and many municipal governments across the country. A second edition of the document was published in the winter of 2011.

Like its American counterpart, the document defines conservation as a values-based process and employs definitions that are broad, flexible and inclusive. *Historic place* is defined as a “structure, building, group of buildings, district, landscape, archaeological site or other place in Canada that has been formally recognized for its heritage value” (*Standards and Guidelines* 2011, 5), while *heritage value* is the “aesthetic, historic, scientific, cultural, social or spiritual importance or significance for past, present and future generations” (*Standards and Guidelines* 2011, 5). Expanded notions heritage and conservation are reflected throughout the document.

In the *Standards and Guidelines*, three treatment types are recognized: preservation, restoration and rehabilitation (Canada does not recognize reconstruction as a conservation treatment), and conservation is any action or process that is “aimed at safeguarding the character-defining elements of an historic place so as to retain its heritage value and extend its physical life...” (*Standards and Guidelines* 2011, 17).

One of the changes in the revised edition of the *Standards and Guidelines* was the inclusion of new guidelines for cultural landscapes, which replace the landscape guidelines of the first edition. Another was the provision of guidelines related to sustainability requirements, which replace related to energy efficiency, reflecting an expanded view of what sustainability requirements may include. Although changes were made to the guidelines in the revised edition, the standards are essentially unchanged.

***The Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (2008).***

In 2008, English Heritage adopted the *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment* to guide its decision-making. The principles inform its approach to the management of the historic environment as a whole, while the policies and guidance provide a framework for the management of historic sites in their custody (*Conservation Principles* 2008).

The publication of the *Conservation Principles* took place after a series of public and expert debates over several years about sustainable development, heritage conservation and potential links between the two (Clarke 2008). A meeting in 2006 on the subject of *public value* and an English Heritage discussion document entitled *Sustaining the Historic Environment* (1997) appear to have been particularly important in shaping ideas on this subject.

Responding to contemporary conservation challenges, including that of sustainability, English Heritage positioned the concept of heritage value, or significance, at the center of all processes. The *Conservation Principles* differs from the U.S. and Canadian documents, however, in its adoption of the concept of *historic environment* to refer to the physical remains of the past (Historic Scotland has also embraced this concept).

Although individual places will continue to be formally recognized through a listing process, English Heritage has taken the position that change is best managed in the wider environment, using a more ecological approach (Clarke 2008, 88). This allows for a much closer integration of nature and culture, and recognizes heritage as something that is part of the environment. The principles, policies and guidance address both the management of the historic environment and its *local distinctiveness*, and the management of the listed sites within these environments.

The principles, themselves, define conservation as a public, citizen-centered, values-based process:

**Principle 1:** The historic environment is a shared resource.

**Principle 2:** Everyone should be able to participate in sustaining the historic environment.

**Principle 3:** Understanding the significance of places is vital.

**Principle 4:** Significant places should be managed to sustain their values.

**Principle 5:** Decisions about change must be reasonable, transparent and consistent.



**Principle 6:** Documenting and learning from decisions is essential. (*Conservation Principles* 2008, 7)

The definitions reflect an evolution in thinking about historic places and conservation. For example, *place* can be any part of the historic environment that can be perceived as having a distinct identity (*Conservation Principles* 2008, 13); conservation is “the process of managing change to a significant place in its setting in ways that will best sustain its heritage values, while recognizing opportunities to reveal or reinforce those values for present and future generations” (*Conservation Principles* 2008, 7).

Although the definition of heritage value has maintained a conventional formulation, comprising the evidential, historical, aesthetic and communal value of a place, English Heritage has elsewhere stated that the values that may be ascribed the historic environment can include: cultural value, educational and academic value, economic value, resource value (sustainability), recreational value and aesthetic value (English Heritage 2008, 316).

The *Conservation Principles* can be seen as one of the most fully realized efforts to integrate heritage and sustainability goals, and it provides very useful insight into the potential implications for heritage conservation guidelines more generally.

### **The Alignment of Heritage Conservation and Sustainable Development**

In her article ‘Only Connect – Sustainable Development and Cultural Heritage’, Kate Clarke identified a number of ways in which sustainable development is influencing, or aligned with, heritage management and policy (Clarke 2008). Some of the ideas that she discusses are evident in the three aforementioned documents and seem likely to become more prominent and entrenched in future conservation principles and practices, as the influence of sustainability grows.

First, increasingly holistic approaches to describing and managing heritage are being encouraged and promoted. Definitions of heritage continue to broaden and there is a shift in focus from individual places to cultural landscapes, the historic environment and historic urban landscapes. Integrated conservation and practices such as historic environment characterization are becoming increasingly important.

Values-based conservation is being used more and more to ensure informed and balanced decision-making. This approach is based on the idea that heritage, and other values, are ascribed to

places by people, that values will evolve over time and that they may conflict with one another. It recognizes that understanding the competing, and sometimes conflicting, values ascribed to a place is the basis of sound heritage management.

The importance of citizen engagement and empowerment, which are central to sustainable development objectives, are increasingly being emphasized in heritage conservation practice, the English Heritage principles being an excellent reflection of this trend. One might also note the expansion of the concept heritage value, which now typically encompasses the idea of *social value*.

Finally, it is coming to be accepted that not all changes to heritage and historic places have a negative impact on authenticity and integrity. One finds in the English Heritage guidance a shift from the idea of preserving heritage value to *sustaining* heritage value, which recognizes enhancement and the potential for beneficial changes to heritage, which can reveal and reinforce values for the benefit of future generations (*Conservation Principles* 2008, 15). Although not defined in quite the same way, arguably the Canadian and American concepts of rehabilitation could be interpreted in a similar way.

These trends and directions represent the expansion of certain concepts and they should help and encourage the heritage sector to ensure processes and outcomes that contribute to social, economic and environmental sustainability. It should be noted that they neither contradict, nor deviate, from long-standing conservation principles embedded in national and international charters.

### **The Sustainability of Heritage Conservation Principles and Practices**

Some practitioners, notably Baird M. Smith and Carl Elefante, have raised questions about whether all conservation principles and practices are, in fact, sustainable (Smith and Elefante 2009).

Smith and Elefante have expressed concern regarding the principle of repair over replacement, in cases where repair would not greatly extend the service life of assemblies and features. Since conservation principles recommend using recognized and proven conservation methods and materials, they have asked whether this might discourage or rule out the use of innovative sustainable technologies and materials at historic places. They have also questioned whether the use of standards or principles in certain regulatory or funding contexts encourages the use of previously approved strategies, thus stifling creative problem solving and the exploration of more sustainable solutions.

One can also imagine that the replacement in-kind of certain exotic materials could be called into question. Moreover, while conservation principles caution against creating a false sense of history

through the reuse of elements removed from historic places, there is now great pressure to recycle any materials removed as a result of projects and interventions.

At the Pocantico meeting of 2008, Elefante disagreed with the recommendation not to alter the *Secretary of the Interior's Standards*, stating: “We have this stone tablet mentality in the preservation world, that Moses handed us the Interior's Standards – and that's not just a flaw, it's an absurdity... The most important thing is for preservationists to understand the process of the green-building community. USGBC (the U.S. Green Building Council) has adopted continuous improvement as part of its mission; it's the notion of a cyclical process to adapt to new conditions and information” (O'Connell 2009, 2).

Certain traditional conservation practices may eventually change as a result of sustainability requirements. However, the concerns expressed above may also stem from the extreme rigidity that can characterize the interpretation and application of principles. If so, the solution may lie in better guidance and training on how to interpret conservation principles and guidelines in the context of sustainable development (something advocated in the *Actions to Further the Pocantico Principles*), rather than in casting them aside.

## **Conclusion**

Since few discussions about the implications of sustainability requirements for heritage conservation principles and practice have taken place to date, it is difficult to predict to what extent guidelines may need to be adjusted or changed.

Sustainability requirements will, themselves, evolve in the near future and more research and data are needed in order to better understand whether and how current conservation practices can meet these requirements. While existing principles and practices have not been demonstrated to be unsustainable, nor have they been adequately proven to be sustainable. The need for scientific research and data is becoming acute. Given the rigidity and inflexibility that can characterize the interpretation of principles and standards, guidance documents and training will be essential, in order to ensure that sustainable approaches to conservation are encouraged.

It appears, however, that a number of key ideas in contemporary conservation practice align with, and can directly support, sustainability goals. These include expanded concepts of heritage, values-based conservation, citizen-centered practices and the notion of sustaining heritage value. These ideas seem likely to become increasingly embedded in conservation principles and guidelines.

Finally, there is growing consensus on the need to fully and explicitly integrate sustainability goals and considerations into conservation principles and guidelines. This is more about making clear the relationship between the two than it is about drastically changing the principles upon which conservation work is based.

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## **Session 4: Méthodologies et directives / Methodologies and Guidelines**

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### **4.8 UBC RENEWS: HARMONISER LA DURABILITÉ ET LA CONSERVATION DU PATRIMOINE**

#### **UBC RENEWS PROGRAMME: BALANCING SUSTAINABILITY AND HERITAGE CONSERVATION**

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**Gerry McGeough**

(Photo: Sh. Inanloo Dailoo, 2011)

## ABSTRACT

This paper provides a *campus/district view* of heritage and sustainability at UBC. UBC is a thousand acre, research-intensive campus with 400 buildings, 45,000 students and approximately 18M sq.ft. of commercial and residential floor space. UBC owns more than 80% of the buildings and acts as the campus energy utility.

UBC's recently completed a cultural landscape study that sought out the 'ideas embodied in the place'. The nine themes that emerged and resources that embody these themes are the core of UBC's Heritage Management Policy in the Vancouver Campus Plan (VCP). VCP Policy 43 states: *Heritage resources identified in Campus Plan embody cultural meaning to the campus community and should be retained where viable as determined by comparing the costs, functionality, campus fit, and ecological and heritage impacts of retention versus replacement; the depth of analysis will be scaled to the significance of the resource.*

The recently adopted UBC Vancouver Climate Action Plan aims to reduce GHGs to: 33 per cent below 2007 levels by 2015; 67 per cent below 2007 levels by 2020; and 100 per cent below 2007 levels by 2050. The University already has plans in place to achieve the 2015 and 2020 targets through the following projects that are either complete or underway:

- Replaced old inefficient lighting.
  - Implemented measures to reduce the energy consumption of HVAC systems.
  - Implementing a system that uses real time data to remotely monitor building energy performance.
  - Reducing the amount of air changes for laboratories fan hoods.
  - Encouraging sustainable behaviors in the workplace and student.
  - Requiring all UBC new buildings and rehabilitation projects to achieve LEED Gold and energy consumption 46% below the National Model Building.
1. 2 MW Bioenergy Cogeneration Plant.
  2. District Energy System Conversion from steam system to hot water.

UBC has also partnered with the Provincial Government to develop and implement the UBC Renew program to: renovate academic facilities, minimize the environmental impact of demolishing and constructing new buildings, preserve campus culture by retaining heritage buildings, and achieve capital savings. Twelve buildings are complete. Key findings from the initial 7 Renew projects which total 400,000 sq.ft. of rehabilitated academic floor space include:

	Approximate construction savings of Renew verse new construction
Capital	\$89 M (\$120 M verses \$209 M for new)
Solid waste	1,500 metric tonnes
CO <sup>2</sup> emissions	6,000 metric tonnes
Coal	500 tonnes
Energy	95 million MJ
Water	27 million liters
Electricity	3 million kWh
Schedule	14 months per project (24 month = 2 school years)

## Summary Findings

Rehabilitation of academic heritage buildings:

- Retention and rehabilitation of heritage resources can contribute significantly to economic, social and cultural sustainability.
- In many cases buildings energy consumption increased after rehabilitation. This is due to increased equipment therefore loads, increased space efficiencies, higher standards of comfort and systems.
- Comparing combined embodied and operating energy, a new buildings start to outperform a rehabilitated buildings 35 years, i.e. the *year of indifference*.
- A comprehensive (e.g. triple or quadruple bottom line) retention assessment is effective in achieving broad stakeholder buy-in.
- Interest/value based approaches to heritage conservation are critical to successfully marrying heritage and sustainability interests.
- Skilled consultants and integrated design processes are critical for addressing heritage, users and ecological objectives.

District wide considerations:

- Energy conservation is best achieved when pursued at multiple levels: user behavior, building systems and district energy.
- The biggest energy conservation gains are at the district level.



- There is ample room for retaining heritage resources while still achieving aggressive carbon reduction targets.
- Addressing heritage conservation at the district level is effective and essential for identifying programs that are a good fit for individual heritage buildings.

## TEXT

### Introduction

Martin Nielsen, one of the earlier roundtable presenters, described heritage in the context of the rehabilitation of a single UBC building complex, i.e. the *project view*. I will now provide a companion *campus view* of heritage and sustainability at UBC. There are three parts to my talk:

- heritage management policy
- sustainability policies and programs
- key findings

UBC is a thousand acre, research-intensive campus with 400 buildings and 45,000 students. UBC owns more than 80 percent of the buildings which total approximately 18 M sq.ft. of commercial and residential floor space. UBC acts as a utility provider to sell and distribute energy to all users on campus.

### UBC's Heritage Management Policy

UBC's recently adopted heritage management policy is founded on a cultural landscape study that sought out the 'ideas embodied in the place'. We first drafted a historical context study that described social-cultural and other events and forces that shaped UBC and its identity today. Working with a diverse group of key participants in the history of UBC we distilled nine themes of community heritage values. Heritage resources that embody these themes were then identified and mapped. The nine themes, mapped resources and management strategies are the core of UBC's Heritage Management Policy and forms part of the recently adopted Vancouver Campus Plan. Policy 43 of the Campus Plan states:

*Heritage resources identified in the Vancouver Campus Plan embody cultural meaning to the campus community and should be retained where viable as determined by comparing the costs,*

*functionality, campus fit, and ecological and heritage impacts of retention versus replacement; the depth of analysis will be scaled to the significance of the resource.*

While we have been informally doing triple bottom line assessments, International House is the first application of this Policy. Politically, before we undertook the viability assessment of International House the key stakeholders in the decision making process had biases towards demolition and construction of a new facility. However, when they observed that the viability assessment was a fair and comprehensive process they engaged with open minds. The visioning and ‘gaming’ exercises that formed part of the process open up participants to the option of retention. Gaming is an interactive process for determining how well the user group’s academic program can be accommodated in the retained building verses a new building. Key conclusions of the viability assessment were:

- Costs - retention plus an addition was estimated to be 80% of the capital cost of building new.
- Functionally - both options accommodated the academic program.
- Campus fit - both options upheld the planning objectives for this part of the campus.
- Ecologically - the combined embodied and operating energy of the retention option would consume less energy for the first 35 years, after which the new building would begin to outperform.
- Heritage - the existing building embodies an important part of the UBC’s story as a leading university in international engagement. The desire to retain physical evidence of this story place was the deciding factor for the University to conclude on retention.

## **UBC Sustainability**

UBC is very aggressive in addressing all aspects of sustainability such as transportation, waste, water as well as social sustainability. Given the focus of this roundtable, I will focus on UBC’s building energy policies and programs. Namely, the energy required to construct and operate buildings.

Our recently adopted UBC Vancouver Climate Action Plan was the result of a multi-year planning process. Over 200 UBC students, faculty, staff and community members provided input. The Plan identifies greenhouse gas emissions reductions strategies in six key areas: Campus Development and Infrastructure; Energy Supply and Management; Fleets and Fuel Use; Travel and Procurement; Food; and Transportation. The university aims to reduce GHGs to:

- 33 per cent below 2007 levels by 2015
- 67 per cent below 2007 levels by 2020

- 100 per cent below 2007 levels by 2050.

UBC is currently a climate neutral campus, however there is a hefty cost in terms of carbon tax and offsets. Achieving climate neutrality without offsets by 2050 is a massive challenge. UBC has a good track record and already has plans in place to achieve the 2015 and 2020 targets. Following are the projects already underway.

### **Energy Retrofit Projects**

UBC has implemented the following energy retrofit projects over the last 12 years:

- Replaced old inefficient lighting in our 50 largest academic buildings saving 16 GWh of electricity per year.
- Implemented various measures to reduce the energy consumption of our HVAC systems (speed control, scheduling, etc.). This combined project was the largest energy and water retrofit project in Canadian history. These projects enabled UBC to maintain GHG emissions below 1990 levels during a period of 35% growth in floor space and student numbers.
- UBC is currently implementing a system that uses real time data to remotely monitor building energy performance. With this data, we target ‘optimized’ performance and report inefficiencies.
- Laboratories fan hoods are the biggest energy hogs. Researching and testing of different systems for reducing the amount of air changes is underway.
- UBC has an award winning “do it in the dark” program that encourages sustainable behaviors in the workplace and student residence. It is estimated that it will save UBC over \$70,000/yr in energy costs by encouraging people to turn off lights and equipment when not in use.
- All UBC new buildings are required to achieve LEED Gold and most importantly achieve 46% below the National Model Building for energy consumption.



**Figure 1- UBC's Continuous Real Time Building Performance Monitoring.**

Other measures UBC is taking to achieve the 2015 target include:

- Continuous Optimization - 'tuning' our building HVAC systems and monitoring real time building performance.
- Improved Behavior Programs - expanding the sustainable behavior program to address all work place environments (especially labs).
- 2 MW Bioenergy Cogeneration Plant – replacing between 12% and 24% of the natural gas used by the district energy system.
- District Energy System Conversion – convert the steam system to hot water and increase the system efficiency by ~25%. Progressively reduce the temperature to increase flexibility of energy supply/recovery options.

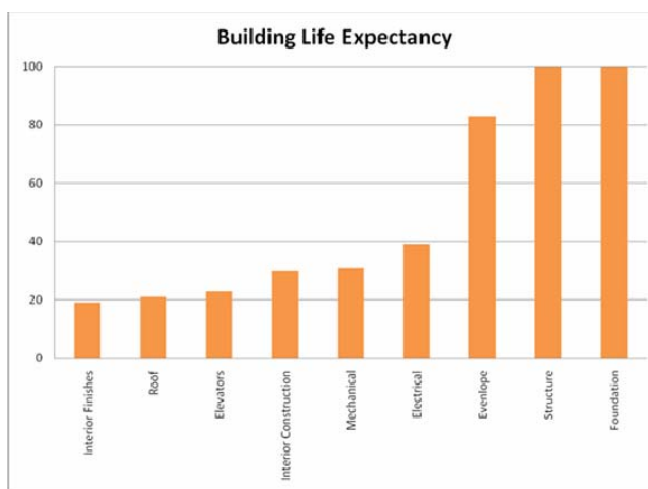
Achieving the 2020 target will require a further 8.5MW of clean thermal energy. Preliminary investigations indicate that biomass and waste heat recovery are the most viable options. Achieving these targets is further complicated by the fact that UBC will increase institutional floor space by over 30% by 2030. This is why a Smart Energy System will be required to manage energy supply and demand. This will allow us to maximize the utility of our energy infrastructure and exploiting the points of integration between water and waste systems on campus (such as sewer heat recovery).

### **UBC Renew (2006 – present)**

The UBC Renew is another UBC project that has received partnership funding from the Government of BC that is designed to:

- Renovate UBC's academic facilities.

- Minimize the environmental impact of demolishing and constructing new buildings.
- Preserve campus culture by retaining heritage buildings.
- Achieve capital savings.



**Figure 2- Life Expectancy of Components of UBC Post WWII Buildings**

The 12 buildings rehabilitated in the program to date can be grouped as follows: Wood framed ‘temporary’ structures, Pre-WWI Collegiate Gothic style buildings, and Early (post-WWII) modern buildings.

### **Wood Framed ‘Temporary’ Structures**

*BC Binnings Studios* and the *Dorothy Somerset Studios* were both built in 1925 as temporary service buildings. The building’s systems were upgraded while retaining many of their characteristic features. The rehabilitations for both buildings cost \$3.7 million. It would have cost \$5.6 million and \$7.4 million to replace the buildings—a saving of \$9.3 million.

### **Pre-WWI Collegiate Gothic Buildings**

*Chemistry Centre Building* - This is a major UBC heritage landmark, significant both historically and architecturally. It is the oldest of only two buildings built in the Collegiate Gothic style and is a defining aspect of UBC original 1912 Sharp and Thompson Architects campus plan.



**Figure 3- UBC Chemistry Building after Rehabilitation.**

Eighty years later its fine architectural details were still intact, but the building was in desperate need of safety improvements, including upgraded fume hoods, ventilation, lighting, power, and seismic restraint. The building could no longer support the kind of research being conducted by the Chemistry department. The Renew program:

- Preserved and restored the heritage façade and interiors while creating state-of-the-art synthetic and analytic chemistry labs.
- Reconfigured the space to create large, open, and flexible labs in keeping with today's academic spirit of researcher collaboration.
- Upgraded lecture theaters and offices.
- Introduced new heating systems, ventilation, plumbing, and lighting, power and data.
- Upgraded the seismic, sprinkler, and all other building code requirements.
- Used low VOC and 'green' materials for all new finishes.
- Cost \$31.8 million compared to \$47.7 million for a comparable replacement building – 67% of the cost!
- Required a 26-month construction period, approximately 14 months less than the time needed to construct a new building.

Renewal of Chemistry Centre consumed approximately 80% fewer resources than demolishing and constructing a new comparable building by avoiding the manufacture and delivery of materials already embodied in the foundations, structure, and cladding of the building. To this end, this project has accomplished the following:

- Diverted 320,000 kg of solid waste from the land fill.

- 1.1 million kg of carbon dioxide equivalent emissions were not released into the atmosphere.
- 18 million MegaJoules of primary energy was saved over the manufacturing and construction, the equivalent of 440,000 litres of heavy fuel.
- Saved 5 million litres of water by retaining the existing components. The water would have been used in the manufacture of materials and construction on site.
- Saved the components in renewal avoided using 92,000 kg of coal used in manufacturing.

The integrated design process led to a number of innovative solutions to meet heritage and ecological objectives. For example, the top floor with its large corridor and multiple rooms off it was reconceived from the Building Code perspective as a single lab room by installing fire doors at the two ends of the corridor. This allowed the wide corridor to be used as lab space.

*Old Auditorium* – This is a major rehearsal and teaching space for the School of Music and important campus heritage building which reopened in October 2010. LEED Gold was targeted which resulted in the proposed removal of two large gothic windows in the main music hall. This LEED point was challenged as we would lose character defining features of the building. This prompted a rethink of the approach to heating the building. It now has an in-floor radiant heating to directly heat the seated audience thereby avoiding the need to heat the large volume of air in the hall.

### **Early (post-WWII) Modern Buildings**

*Chemistry North Building* - This 1961 research laboratory was in dire need of fire and life safety upgrades, up-to-date ventilation, improved air quality and modernized heating and communications systems. Under the Renew program the interior was demolished, brought up to up to date building codes, reconfigured and now meets state-of-the-art research lab standards. The rehabilitation cost \$10 million; replacement would have cost \$15.5 million —a savings of \$5.5 million.

*Buchanan complex* - Buchanan is a landmark of post-war modernist design on campus and the focal point of the Faculty of Arts, the largest UBC faculty. Four of the five buildings that comprise the complex were renovated one at a time. This project was discussed in detail by the earlier presenter Martin Neilson.



**Figure 4- Buchanan Complex after Rehabilitation.**

*Friedman Building* - A lab building constructed in 1961, it housed the Anatomy and Physiology department. Recognizing that upgrading the wet labs was not cost-effective, UBC Renew found a match for the space involving two academic programs that base their work in dry research and teaching labs. The building has now been completely reconfigured and rehabilitated as a new home for the School of Audiology and Speech Sciences, and the School of Rehabilitation Sciences – Physical Therapy.

*Henri Angus* - Renewal of 216,000 sq. ft. existing floor space for the Faculty of Business, plus 50,000 sq. ft. addition for a capital cost of \$85M.

*Biological Sciences Buildings* - \$65 M research facility including aquatic labs.

### **Summary of Renew Phase I findings**

Key findings from the initial 7 Renew projects which total 400,000 sq.ft. of rehabilitated academic floor space include:

	Approximate construction savings of Renew verse new construction
Capital	\$89 M (\$120 M verses \$209 M for new)
Solid waste	1,500 metric tonnes
CO <sup>2</sup> emissions	6,000 metric tonnes
Coal	500 tonnes
Energy	95 million MJ
Water	27 million liters
Electricity	3 million kWh
Schedule	14 months per project (24 month = 2 school years)



During the same six year period three existing buildings were demolished and replaced with new developments:

- Curtis (Law) Building - A triple bottom line assessment or retention verse replacement concluded the existing building it was very uncomfortable for the users comfort and could not be easily updated given extensive use of cast in place concrete. Building users passionately disliked it. With regards to its heritage value, it was designed by a distinguished local architect recognized for his west coast modern residences. However, it was clear that the architect's residential design talent and legacy did not translate into this building having community heritage value.
- Earth Science Building was a concrete block construction building with no heritage value and energy inefficient.
- Cheese Factory was a small wood frame structure that was condemned due to the significant deterioration of its structure and the potential high cost of its rehabilitation.

### **Summary Findings of UBC's Heritage and Sustainability Programs**

Findings regarding the rehabilitation of academic heritage buildings:

- Retention and rehabilitation of heritage resources can contribute significantly to economic, social and cultural sustainability.
- In many cases buildings energy consumption increased after rehabilitation. This is due to increased equipment therefore loads, increased space efficiencies, higher standards of comfort and systems.
- Two case studies (International House and Buchanan Complex) estimating the combined embodied and operating energy, concluded a new replacement building would start to outperform a rehabilitated buildings after 35 years, i.e. the *year of indifference*. Noting better metrics are needed for this type of study.
- A comprehensive (e.g. triple or quadruple bottom line) retention assessment is effective in achieving broad stakeholder buy-in.
- Interest/value based approaches to heritage conservation are critical to successfully marrying heritage and sustainability interests.
- Skilled consultants and integrated design processes are critical for addressing heritage, users and ecological objectives.

Findings of a district wide approach:

- Energy conservation is best achieved when pursued at multiple levels: user behavior, building systems and district energy.
- The biggest energy conservation gains are at the district level.
- There is ample room for retaining heritage resources while still achieving aggressive carbon reduction targets.
- Addressing heritage conservation at the district level is effective and essential for identifying programs that are a good fit for individual heritage buildings. For example the Friedman Building was not viable as a wet lab building, but viable as a dry lab building.

## **Session 4: Méthodologies et directives / Methodologies and Guidelines**

**Président / Chair:** Nicholas Roquet

Professeur adjoint, École d'architecture, Faculté de l'aménagement, Université de Montréal

Assistant Professor, School of Architecture, Faculty of Environmental Design, Université de Montréal

**Rapporteur 4:** Niki McKernan, Étudiante / Student, Carlton University

### **4.9 APPLIQUER LES EXIGENCES DE DURABILITÉ AUX BÂTIMENTS PATRIMONIAUX FÉDÉRAUX APPLYING SUSTAINABILITY REQUIREMENTS TO FEDERAL HERITAGE BUILDINGS**

**Susan Ross**, Architecte en conservation, Direction de la conservation du patrimoine, Travaux publics et Services gouvernementaux Canada

Conservation Architect, Heritage Conservation Directorate, Public Works and Government Services Canada



**Susan Ross**

(Photo : Sh. Inanloo Dailoo, 2011)

## ABSTRACT

Part 1 presents the work of adapting an environmental rating system for federal heritage properties by the Heritage Conservation Directorate of Public Works and Government Services Canada. It outlines the methodology, including: modifying existing requirements to address issues of historic buildings and sites; adding new requirements to give value to sustainable characteristics of historic buildings and sites; integrating references to conservation principles and guidelines, and adding a new category of requirements for heritage and social sustainability. This section will also speak to the federal regulatory context for sustainability and the challenges of keeping up with a constantly evolving context of rating systems.

Part 2 presents the principles and strategies of sustainable heritage conservation, which can be seen as lessons learned from the work on rating systems, or an answer to the question: How can the field of heritage conservation further strive to integrate strategies of sustainable development in our practices, by contributing to the social, economical and environmental sustainability of our work? Suggested strategies include:

- Following an interdisciplinary design process that integrates conservation and sustainability knowledge early and repeatedly;
- Adopting an extended lifecycle approach to property management and project planning, including planning for long-term use, growth and change;
- Understanding and documenting existing performance (in addition to condition) as the basis for planning upgrades;
- Using appropriate technologies, that are physically, visually and conceptually compatible with the cultural resource and its environment; As well as:
- Finding or supporting sustainable and appropriate uses, that do not require excessive alterations or additions to otherwise sound structures and materials;
- Following principles of minimum intervention and resource-saving in maintenance, repair and adaptation; and
- Designing durable upgrades/ additions with compatible service life.

Part 3 stresses the importance of collaboration between organizations and describes some of HCD's work with other government partners, conservation organizations, and universities, and in particular with Parks Canada, the Association for Preservation Technology, Heritage Canada and the Royal Architectural Institute of Canada. This has included developing publications, workshops and training activities, and has created opportunities to discuss and review case studies across Canada and the USA.

Part 4 is a challenge to the academic context of the round table regarding needed research. It starts by looking at where research is happening, identifying some of the key players working on research in the UK, Canada and USA on heritage - or existing buildings - and climate change, energy, lifecycle analysis, and related guidelines or policies. It then identifies some of the many research needs in this area, including:

- Sustainability best practices; Models for integrated-interdisciplinary work; Consultation and community-based planning; Holistic strategies for reuse and adaptation; and Building stock inventories and characterization;
- Lifecycle assessment of rehabilitation options; Building materials re-use in situ vs salvaging & recycling; Energy modeling of historic building; and Testing recent international science on Canadian examples of historic building envelope/ window performance;
- Traditional / regional / appropriate environmental technologies; Mechanical systems in historic buildings; Issues of modern heritage: materials, systems, site and Issues of industrial heritage: brownfield mitigation / clean up;
- Adaptation to climate change; Preventative conservation; and Disaster-preparedness and risk management.

There is a particular need for Canadian case studies. This event brings many such examples to the table. Practicing professionals have an important role in publishing and discussing their work, but also in obtaining further training to better enable integration of the practices and principles of sustainable conservation.

## **TEXT**

My paper will begin by addressing the Chair's request to speak about "Applying Sustainability Requirements to Federal Heritage Buildings", including our work on adapting rating systems. I will then speak to lessons learned from this work, towards identifying principles and strategies of

sustainable heritage conservation. In a third part, I will review the importance of our collaborations with other government partners, conservation organizations, and universities, including in training activities. To conclude I would like to challenge this academic context by presenting research needs identified in this area.

## **1- Applying Sustainability Requirements to Federal Heritage Buildings**

In the federal context, specific requirements for sustainable development constantly evolve. Since 1995, federal departments are required to table a sustainable development strategy (SDS) in parliament every three years. Each SDS cycle expands objectives and verifies earlier targets. More recently the requirement to use green building standards, such as “LEED silver or equivalent” for major renovations, and BOMA’s Go Green Plus system for assessing the performance of existing buildings were added. The 2010 Federal Sustainable Development Strategy responded to a need for more integrated strategies across the Government of Canada.

Public Works and Government Services Canada (PWGSC) owns about 150 of the 1337 federal heritage buildings. We manage many more for other departments, and we provide Real Property service management to a large % of the total inventory of 37,175. The PWGSC mandate includes providing technical expertise on heritage, and more broadly on its existing building stock. Within our own inventory of heritage buildings, many are relatively young, i.e. recent or potential heritage. Many lessons to be learned from our management of heritage buildings can have implications for our wider building stock.

Understanding our inventory - and our heritage buildings in particular - is critical. But the survey methods of systems like BOMA’s Go Green Plus and the CaGBC’s Green Up programme, provide only limited data. For example, both this 1920s classified Dominion Public Building in Toronto and the new Normand-Maurice Building in Montreal had amongst the highest scores in the Green Up pilot on sixteen (16) PWGSC buildings regarding energy use. What is this due to? For one, these results may reflect how many larger federal heritage buildings have already seen major energy retrofits, including system upgrades, solar shading of windows and green roofs. There is thus a great need for research in the area of characterization of the inventory and analysis of the results of assessments of existing buildings and previous upgrades.

In the 1990s, when PWGSC was developing guidance on sustainable design, in particular for renovation of office buildings, it initiated the development of a version of the BREEAM/ Green Globes

rating system adapted to its project delivery system. PWGSC's Heritage Conservation Directorate (HCD), where I work, is the federal government's centre of expertise for heritage conservation, and therefore responsible for developing new conservation tools and best practices. In 2003 we proposed a version of Green Globes adapted for heritage buildings, which would eventually be called the draft "Sustainable Heritage Rating System".

At the time a critique of rating systems was emerging in the heritage community, in particular through the Association for Preservation Technology (APT). While some criticisms of these systems were unique to their use on historic buildings, others were part of a wider critique of the quantitative approach to sustainable design. Still others might now seem naïve in view of the success in the USA of a high number of "green + historic" certifications. In the end, HCD's project was challenged by the launch of LEED by the Canada Green Building Council (CaGBC) in Canada in 2004, as well as changes in directives regarding the government role as tool developers.

Still our experimental adaptation of the rating system was unique, and the methodology is worth noting. It included:

- Modifying existing requirements to address specific issues with historic buildings, and sites,
- Adding new requirements to give value to the existing sustainable characteristics of historic buildings and sites, and
- Integrating references to the *Standards and Guidelines for the Conservation of Historic Places in Canada* or other conservation references.

Perhaps most significant, and challenging, was an added section of requirements for heritage and social sustainability, weighted at 20%. The proposed criteria for social sustainability included: requirements for public consultation; consideration of the impact on housing stock and affordability (e.g. leased spaces); provisions for access to common spaces; development of training and employment; and, public education and heritage awareness initiatives.

This work had reached the stage of being piloted on two or three buildings, when priorities shifted to piloting emerging tools developed outside government. Documents developed for the system are however still used to provide guidance for using Green Globes. In addition, in anticipation of its eventual use, presentations about the system became the basis for awareness building on the issues with rating systems, and interest in this work led to research papers and peer-reviewed publications. More on this to follow.

Outside rating systems, it has long been required to address environmental performance targets in PWGSC projects. A significant example of a federal project to have met a wider range of sustainability requirements without reference to rating systems was the rehabilitation of the Library of Parliament completed ca.2005. This included implementing an idea that rating systems are only just getting their head around, namely design for durability. In this case, the object was to build with materials and techniques compatible to historic ones that can last centuries, to reduce issues of differential durability.

We continue to work to some extent in the area of rating systems, currently providing review for new tools such as LEED for Neighbourhood Development, analyzing piloting results, or helping in related training. But beyond rating systems, the lessons learned from work on the draft “Sustainable Heritage Rating System” helped identify basic strategies of sustainable heritage conservation.

## **2- Sustainable Heritage Conservation**

Like this roundtable, our premise was to ask how the field of heritage conservation could further strive to integrate strategies of sustainable development in our practices, by contributing to the social, economical and environmental sustainability of our work. Building on common principles, the following summarize some of the more general strategies that can help to integrate the objectives of heritage conservation and environmental aspects of sustainable development:

- Following an interdisciplinary design process that integrates conservation and sustainability knowledge early and repeatedly;
- Adopting an extended lifecycle approach to property management and project planning, including planning for long-term use, growth and change;
- Understanding and documenting existing performance (in addition to condition) as the basis for planning upgrades;
- Using appropriate technologies, that are physically, visually and conceptually compatible with the cultural resource and its environment; As well as:
- Finding or supporting sustainable and appropriate uses, that do not require excessive alterations or additions to otherwise sound structures and materials;
- Following principles of minimum intervention and resource-saving in maintenance, repair and adaptation; and
- Designing durable upgrades/ additions with compatible service life.



Some of these ideas made their way into explanatory materials in the 2<sup>nd</sup> edition of the *Standards and Guidelines*. Other innovative ideas from the rating system, such as defining criteria to assess social sustainability, have yet to be fully explored.

If assessing and integrating the state of knowledge in this area was important in such work, a second important part has been about building awareness and exchange within the federal government, at other levels of government and through conservation organizations and universities. The work on SHRS was only made possible through close collaboration between HCD, the Environmental Services/ Office of Greening Government of PWGSC and the developers of Green Globes.

### **3- Collaboration in Publications and Training/Education Activities**

Support from Parks Canada through the Historic Places Initiative (HPI) was also critical. The HPI-commissioned “Sustainable Historic Places,” working paper from 2005 (revised 2008) led to many opportunities for exchange with peers working on related research. HPI also funded a “Forum on Sustainable Heritage Conservation Initiatives” in February 2008, which was a meeting of mostly federal or national level partners, including NRCan and CMHC, interested in discussing policy, research and training in this area.

While building federal relations is key towards building integrated approaches, it was in our relationships with organizations like APT, the National Trust for Historic Preservation (NTHP) in the USA, Heritage Canada and the British Columbia Heritage Branch that we were able to contribute to developing a growing community of peers in this area. We are fortunate to have access to support for activities with conservation organizations. This supported chairing the technical committees, attending research retreats and, participating in workshops.

Through Heritage Canada Foundation, HCD had the opportunity to collaborate on the first CaGBC-co-sponsored workshop on LEED and heritage rehabilitation in Toronto in 2009. But due to lack of Canadian examples of LEED certified conservation projects, the workshop was heavily based on analysis of successful projects in the USA, as well as work done by American colleagues analyzing LEED in terms of easy, difficult or neutral credits for projects involving historic buildings.

Through training with the Royal Architectural Institute of Canada (RAIC) we had an opportunity to explore case studies outside the federal government, and not just focused on rating systems. First, in the context of a national workshop on the *Standards and Guidelines*, which included

the Red River College as a case for discussion of reviewing sustainability interventions using conservation principles, then through workshops on rating systems and integrated conservation where we looked at strategies inherent in sites like Vancouver's Mole Hill, or issues raised by Manchester's solar cladding of a 20<sup>th</sup> century tower. We also work with universities to offer lectures, notably here at Université de Montreal, and at Carleton University through Memoranda of Understanding (MOUs), but also at Simon Fraser University and U.Q.A.M.

#### 4- Identifying Research Needs

Over the years, these universities and others, from Victoria, BC to Leuven, Belgium, have been interesting sources of discussion as students contact me to ask about possible subjects for research in this area, or feedback on research underway. I therefore thought it would be appropriate to end in this context of graduate students in conservation with some suggestions about areas of research that will help us meet our common goals.

First it is important to know where related research is happening. This is broadly meant, to include research on heritage and existing buildings in relation to climate change, energy, lifecycle analysis, and related guidelines or policies. These are some of the key players working on research connecting *heritage and sustainability in the UK, Canada and USA*:

- *ICOMOS, English Heritage, EU - Noah's Ark*
- *U.C. London: Centre for Sustainable Heritage,*
- *BRE (Building Research Establishment)*
- *Association for preservation Technology, National Trust for Historic Preservation,*
- *Athena Institute, U. Victoria, U. of T. & Ryerson*
- *OECD, UNEP.*

Secondly, what are some of the areas requiring further data, study and analysis?

- *Sustainability best practices*
- *Models for integrated-interdisciplinary work*
- *Consultation and community-based planning*
- *Holistic strategies for reuse and adaptation*
- *Building stock inventories and characterization*

- *Lifecycle assessment of rehabilitation options*
- *Building materials re-use in situ vs salvaging & recycling*
- *Energy modeling for historic buildings*
- *Testing recent international science on Canadian examples of historic building envelope/ window performance*
- *Traditional / regional /appropriate environmental technologies*
- *Mechanical systems in historic buildings*
- *Issues of modern heritage: materials, systems, site*
- *Issues of industrial heritage: brownfield mitigation / clean up*
- *Adaptation to climate change*
- *Preventative conservation*
- *Disaster-preparedness and risk management*

Overall, we need more Canadian case studies, including analysis of those federal examples I have mentioned. For this in fact I call upon the professionals involved in related projects to publish this work. It has for example been incredibly helpful that Busby's firm published analysis of all their work, which included sensitive and inspiring rehabilitations of designated and non-designated buildings.

Beyond the students, I encourage all of us conservation specialists already in practice, to continue obtaining training in these areas, to better prepare to adapt and embrace new values, objectives and uses for historic places.

Many of those leading in this area are not here today, including colleagues from British Columbia, the USA and UK. APT will host both a sustainability symposium and paper track at its conference in Victoria in October, and I hope to see you there.

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**Session 5: Pertinence de l'Agenda 21 du Québec et le quatrième pilier de la "culture"**  
**Pertinence of Quebec's Agenda 21 and the Fourth Pillar of "Culture"**

**Président / Chair:** Jean-Claude Marsan

Professeur émérite, École d'architecture, Faculté de l'aménagement

Professor Emeritus, School of Architecture, Faculty of Environmental Design, Université de Montréal

**Rapporteur 5:** Laure Emery, Étudiante / Student, Université de Montréal

**4.10 Agenda 21 et le quatrième pilier du développement durable**  
**Agenda 21 and the Fourth Pillar of Sustainable Development**

**Véronique Guèvremont**, Ministère de la Culture, des Communications et de la Condition féminine,  
Québec et Professeure, Faculté de droit, Université Laval



**Véronique Guèvremont**  
(Photo : Sh. Inanloo Dailoo, 2011)

## **Session 6: Études de cas / Case Studies**

**Président / Chair:** Marie Lessard

Présidente du Conseil du patrimoine à Montréal et Professeure, Institut d'urbanisme, Faculté de l'aménagement, Université de Montréal

President Conseil du patrimoine à Montréal and Professor,

Institute of Urban Studies, Faculty of Environmentl Design, Université de Montréal

**Rapporteur 6:** Judith Herrmann, Étudiante / Student, Université de Montréal

### **4.11 VISER LA DURABILITÉ: ÉCOLE VICTORIA, MONTRÉAL**

#### **AIMING FOR SUSTAINABILITY: ÉCOLE VICTORIA, MONTRÉAL**

**Gavin Affleck**, Architecte / Architect, Affleck + de la Riva, Architectes, Montréal



**Gavin Affleck**

(Photo : Sh. Inanloo Dailoo, 2011)



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President Conseil du patrimoine à Montréal and Professor,

Institute of Urban Studies, Faculty of Environmental Design, Université de Montréal

**Rapporteur 6:** Judith Herrmann, Étudiante / Student, Université de Montréal

### 4.12 LE DÉVELOPPEMENT DURABLE ET LE PATRIMOINE IMMATÉRIEL SUSTAINABLE DEVELOPMENT AND INTANGIBLE HERITAGE

**Laurier Turgeon**, Professeur d'histoire et d'ethnologie, Titulaire, Chaire de recherche du Canada en patrimoine, Département d'histoire, Université Laval

Professor in History and Ethnology, Chairholder, Canada Research Chair in Heritage, Department of History, Université Laval



**Laurier Turgeon**

(Photo : Sh. Inanloo Dailoo, 2011)

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Institute of Urban Studies, Faculty of Environmental Design, Université de Montréal

**Rapporteur 6:** Judith Herrmann, Étudiante / Student, Université de Montréal

### 4.13 Les approches de la durabilité dans la conservation de l'architecture moderne: les Habitations Jeanne-Mance à Montréal Sustainability Approaches for the Conservation of Modern Architecture: les Habitations Jeanne-Mance à Montréal

**Mark Poddubiuk**, Architecte senior et associé, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architectes, Montréal et Professeur, École de Design, Université du Québec à Montréal  
Senior Architect and Associate, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architects, Montréal and Professor, School of Design, Université du Québec à Montréal



**Mark Poddubiuk**

(Photo : Sh. Inanloo Dailoo, 2011)

## Session 6: Études de cas / Case Studies

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President Conseil du patrimoine à Montréal and Professor,  
Institute of Urban Studies, Faculty of Environmentl Design, Université de Montréal

**Rapporteur 6:** Judith Herrmann, Étudiante / Student, Université de Montréal

### 4.14 LES APPROCHES DE DURABILITÉ POUR LA RÉHABILITATION DES PROPRIÉTÉS EXCÉDENTAIRES: BENNY FARM, MONTRÉAL SUSTAINABILITY APPROACHES FOR REHABILITATION OF SURPLUS PROPERTIES: BENNY'S FARM, MONTRÉAL

**Daniel Pearl**, Professeur agrégé, École d'architecture, Faculté de l'aménagement, Université de Montréal et Architecte senior et associé, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architectes, Montréal

Assistant Professor, School of Architecture, Faculté de l'aménagement, Université de Montréal and Senior Architect and Associate, L'OEUF – Olivier, Pearl, Poddubiuk et associés, Architectes, Montreal



**Daniel Pearl**

(Photo : Sh. Inanloo Dailoo, 2011)

## 5. TEXTES DES RAPPORTEURS / REPORTS OF THE RAPPORTEURS

### Session 7: Discussion et conclusions de la Table ronde / Round Table Discussion and Conclusions

**Présidente / Chair:** Dinu Bumbaru

Directeur des politiques, Héritage Montréal et Président, ICOMOS Canada

Director of policy, Héritage Montréal and President, ICOMOS Canada

**Rapporteur 1:** Niki McKernan, étudiante / Student, Carlton University

### Session 1: Introduction à la Table ronde 2011: Déterminer la portée des questions

#### Introduction to 2011 Round Table: Scoping the Issues

Reported by Niki McKernan:

Christina Cameron discussed that

- The goal of the Canada Research Chair on built heritage is to discuss difficult and unresolved issues.
- This year's Round Table discussion has focused on the idea of sustainability and how culture fits into issues of sustainable development.
- Christina discussed the three pillar approach and the addition of the fourth pillar of culture in 2000.
- The addition of culture to the three pillars acts as an all encompassing element to unite all three founding principles.
- Some of the questions put to the Round Table
  - What does sustainability mean
  - Are existing heritage conservation guidelines and processes adequate
  - What about the fourth pillar of culture
- Desired results hoped for from this round table
  - The sharing of research, experience, advice and positions
  - The development of a better understanding of the philosophy of sustainable development and its impact on theories and practices of heritage conservation
  - The evaluation of current processes and how they can evolve into a more sustainable approach without the loss of heritage value

- The exploration of strategies for balancing heritage and other requirements of communities and stakeholders.

**Julian Smith** discussed three phases of the environmental preservation movement.

- 1970's: A movement surfaced as a reaction against the mainstream culture. It was a bottom-up, community based, structure that was resisting the modernist, authoritative and hierarchical structure of mainstream culture.
- 1980's – 1990's: Joining the mainstream. Both movements embraced the professionalisation of the field in an attempt to legitimize the process. At this point the most effective way to express their values was to assert them selves into the existing design/development framework.
- Today: Disintegration of the mainstream culture. Recently both movements have developed new attitudes towards development. This has evolved from the acceptance the realization that the expert is being questioned in all fields by a new generation not willing to accept the status quo or the word of the professional.
- The conclusion is that the future of heritage lies in our ability to work together with developers and to learn from each other.

**Rapporteur 2:** Lashia Jones, étudiante / Student, Carlton Univeristy

**Session 2: La relation entre le développement durable et la conservation du patrimoine  
Relationship between Sustainable Development and Heritage Conservation**



**Lashia Jones**  
(Photo : Sh. Inanloo Dailoo, 2011)

**Sean Fraser** identified that sustainability was an ethic that both heritage conservation and environmental conservation shared.

- He noted the significant parallels between the ideas or concepts that natural and cultural conservation deal with - such as species at risk / buildings at risk and the challenges of dealing with invasive species / development.
- He feels that biodiversity is the key to inherently stable culture or ecosystem, as a monoculture, be it natural or cultural, is inherently fragile.
- Heritage Conservation Professionals and Developers use dramatically different language for the same concept.
  - Stewardship vs. Management
  - Value / Place vs. Market Appeal
  - Patience vs. Expediency

These dichotomies all contribute to compromising sustainability.

- Locality is important to sustainability, particularly for heritage conservation. Local labour is the ultimate renewable resource; it is locally available and aids the local economy. Reusing an existing building may be more labour intensive, but it makes for a more sustainable project.
- Following are issues that are of importance for both heritage conservation and environmental conservation:
  - Repair and maintenance.
  - Choosing durable products that will last longer and lead to less consumption, thus less waste.
  - Using local materials, species and skills.
  - Unplugging wherever possible and managing water.

**Jill Taylor** spoke of the challenges of measurement methods.

- The sustainability industry has no means of measuring the intangible qualities of an existing building, and as a consequence is skewed against the reuse of buildings. In particular, she noted that LEED gives the same number of points for reusing a building as the use of low flush toilets; the system is inherently weighed against the reuse of existing buildings. She thinks that LEED needs to be more flexible to include the re-use of materials and buildings.
- Heritage conservation is sustainable on many levels. The Greenest Building is the one already built.
- She argued that Sustainability and Heritage Conservation are not foes, but rather the foes of Sustainability and Heritage Conservation are those who do not value nature or cultural products and those who do not have any knowledge of the past.

**Martin Nielson** presented a case study: the Buchanan Building.

A life cycle assessment was done to evaluate the merits of retaining the Buchanan Building vs. building a new building.

- It would take 30 – 40 years for the cost of constructing a new building to be recouped, and by that time it would more than likely require renovation. The existing building already has

embodied energy. They found that reusing the existing buildings rather than building new saved eight million dollars. It also reduced on the amount of solid waste, reduced energy consumption and pollution emissions.

He noted that LEED does not support sustainability due to its checklist approach.



**Rapporteur 3:** Marie-Andrée Thiffault, Étudiant / Student, Université de Montréal

**Session 3: La durabilité et la pratique de la conservation du patrimoine /  
Sustainability and Heritage Conservation Practice**



**Marie-Andrée Thiffault**  
(Photo : Sh. Inanloo Dailoo, 2011)

### **Le Contexte Général**

La présentation a commencé par la démonstration du moment où le lien entre durabilité et conservation de l'environnement bâti est apparu dans les diverses publications et débats. Julia Gersovitz a souligné que plusieurs ouvrages comme *Curatorial Management of the built environment* de James Marston Fitch, *Conservation of building* de John Harvey et *The Whole Preservation Catalog* de National Trust for Historic Preservation traitaient déjà de durabilité. Les auteurs réclamaient que les bâtiments anciens consommaient moins d'énergie que les nouveaux, que leur recyclage était aussi moins onéreux et que la réutilisation des matériaux diminuait les dépenses étant donné que le prix des matériaux fluctue.

On constate donc que 1977 correspond à l'année charnière où le lien entre la conservation du patrimoine culturel et le terme durabilité a été établi, basé sur les débats qui naissaient un peu partout. À ce moment, les questions énergétiques et économiques étaient les principales raisons pour justifier que la conservation des lieux est une intervention durable. Le contexte de la crise pétrolière des années 70 a certainement un rôle à jouer dans le changement des tendances entreprises à ce moment.

### **Le contexte montréalais et le programme de l'Université de Montréal « 3R »**

Sur le plan local, pendant les années 1980, la ville de Montréal vivait un changement d'attitude passant de la démolition à la conservation du tissu historique, ce qui fut propice à l'émergence de certaines initiatives civiques. À titre d'exemple, Dinu Bumbaru nous a remémoré les cours de rénovation qui étaient mis sur pied par l'organisme Héritage Montréal, en association avec le musée des Beaux-arts de Montréal, pour éduquer les propriétaires de bâtiments anciens à un entretien adéquat et sensible. C'est à ce moment que la ville de Montréal est devenue un laboratoire urbain pour le patrimoine bâti et c'est aussi dans ce contexte académique et civique qu'est né le programme de conservation du patrimoine bâti à l'Université de Montréal nommé les trois « R » (Rénovation-Restauration-Recyclage).

Ce programme d'éducation formelle était un partenariat entre la faculté de l'Aménagement de l'Université de Montréal, Héritage Montréal et la fondation Bronfman. Lors de sa fondation, le programme était enraciné dans une concertation large, un comité consultatif composé de 32 professionnels :

- Les architectes en pratique privée
- L'Université de Montréal
- Héritage Montréal

À son origine, le cours avait trois genèses :

- Les cours du soir
- Les cours d'été intensifs
- Les séminaires

Le cours était ancré dans la réalité locale et son contenu était surtout axé sur l'architecture et l'aménagement, dans le but d'avoir un rayonnement sur Montréal. Le programme misait sur le fait que la conservation est une façon de penser le développement. Le cours traitait également des métiers et des savoir-faire associés à la discipline de la conservation. À l'époque, il s'agissait du seul programme universitaire dans toute la francophonie, excluant les programmes de l'École de Chaillot en France, à traiter de ce sujet, ce qui explique la diversité culturelle des étudiants.

Depuis les années 1990, le programme est devenu un programme officiel de l'Université de Montréal, associé à la maîtrise en Aménagement et il a été renommé « Conservation de l'environnement bâti ».

## Présenté par Patrice Frey

Les recherches entamées par le *National Trust for Historic Preservation* sont en réponse au développement des systèmes de certification *LEED*. À l'époque, l'option de réutiliser les bâtiments anciens n'était pas toujours facile à promouvoir, ce qui a motivé l'organisme à entreprendre des recherches pour développer la compréhension du lien entre la conservation du patrimoine bâti et le développement durable.

Plusieurs recherches traitant du caractère durable du patrimoine culturel bâti ont été entreprises. Par exemple, au sujet des gaz à effet de serre, les moyennes Américaines prétendent que 42% des émissions totales proviennent de la production des manufactures et qu'à l'intérieur de ce pourcentage, 60 à 70% des émissions sont reliées à l'industrie de la construction. *National Trust for Historic Preservation* a donc entamé une étude qui a calculé la consommation énergétique de plusieurs types de bâtiments aux États-Unis selon leur période de construction. L'étude a permis de renforcer le rôle de la conservation dans la lutte contre les gaz à effet de serre en démontrant que ce sont les bâtiments construits avant 1920 qui consomment le moins d'énergie. Certains professionnels du domaine de la construction sont rapidement revenus à la charge en indiquant que les bâtiments récents comportent des systèmes de climatisation qui sont pratiquement absents dans les bâtiments anciens. Cependant, les recherches ont démontré que même en ajoutant une quantité d'énergie correspondant à la quantité nécessaire pour faire fonctionner ce type de système à la moyenne d'énergie des bâtiments construits avant 1920, la demande en énergie demeure nettement inférieure pour les bâtiments anciens.

Malgré toutes ces statistiques, la pensée que l'énergie incarnée est une donnée insignifiante est encore largement répandue. À ce sujet, le Royaume-Uni a réalisé une étude qui souligne que les nouveaux bâtiments ont besoin de trente à cinquante années pour retrouver entièrement l'énergie initiale consommée lors de la construction. Plusieurs critiques ont été faites à l'égard du nombre d'années, mais comme l'expliquait Patrice Frey, qu'il s'agisse de trente ou dix années, avons-nous vraiment le temps d'attendre aussi longtemps avant d'agir?

*National Trust for Historic Preservation* mène aussi des recherches au sujet du cycle de vie des matériaux. Le but est de prédire quels sont les impacts évités lorsqu'on réutilise les bâtiments plutôt que de les détruire. L'étude, actuellement en cours, regarde cinq typologies de bâtiment : résidentiel, scolaire, entrepôt et deux types commerciaux. Les résultats seront dévoilés au mois de juin 2011.

Enfin, un autre projet de recherche majeure menée par l'organisme est d'adapter le code énergétique des États-Unis qui est trop contraignant lorsqu'il vient le temps de travailler avec des bâtiments historiques. Le code énergétique américain veut normaliser la consommation énergétique des nouveaux bâtiments afin de diminuer la demande nationale en énergie. Cela dit, ce code fixe des objectifs cibles à atteindre sans toutefois évaluer les conditions existantes du bâtiment.

Afin d'adapter le code aux conditions des bâtiments historiques, *National Trust for Historic Preservation* a proposé une nouvelle formule. L'organisme travaille avec le concepteur et le propriétaire pour

établir des objectifs cibles propres au bâtiment à l'étude. Une étude est faite pour illustrer les stratégies prévues pour y parvenir et l'organisme va vérifier sur place pour s'assurer que le bâtiment répond bel et bien aux objectifs originaux. En établissant des nouvelles règles, *National Trust for Historic Preservation* croit avoir un impact positif sur la conservation des bâtiments historiques.

Finalement, plusieurs petits et moyens projets qui intègrent des stratégies énergétiques ont été exposés. Patrice Frey a terminé sa présentation sur deux enjeux qui, selon elle, nous guettent. Dans un premier temps, la question de la pression constante que subissent les petits bâtiments à cause de la croissance et de la densité. Dans un deuxième temps, comment peut-on articuler les valeurs des anciens édifices et les communiquer?

### **Période de Discussion**

La période de discussion était majoritairement axée sur les recherches entreprises par le *National Trust for Historic Preservation*.

*Question* : Quelle est la qualité de la base de connaissances avec laquelle *National Trust for Historic Preservation* travaille? Est-ce que l'organisme a une idée précise de l'inventaire américain?

*Réponse de Patrice Frey* : Malheureusement, nous n'avons pas une bonne idée de l'inventaire bâti américain. Il y aurait environ 4 millions de bâtiments listés aux États-Unis, mais la compréhension de ce « stock » bâti n'est pas exacte.

*Question* : Il y a de grandes différences climatiques, géographiques et économiques entre les États du Nord et du Sud et entre les États à l'est à l'ouest. Est-ce que les résultats sont les mêmes?

*Réponse de Patrice Frey* : Les différences de rendement entre le nord et le sud, l'est et l'ouest des États-Unis ne sont pas encore des données réellement utilisées dans les recherches. Et l'organisme n'est pas arrivé à ce point où il utilise cette information pour adapter les stratégies de conservation.

Patrice Frey a expliqué que *National Trust for Historic Preservation* travaille fort auprès du gouvernement pour développer des incitatifs économiques pour les développeurs et les propriétaires, mais que malheureusement les résultats ne sont pas convaincants. C'est pourquoi l'organisme se concentre surtout sur des actions locales et privées.

*Question* : En termes d'opinion publique, est-ce que *National Trust for Historic Preservation* font des sondages permettant de savoir si le message concernant « l'importance d'agir à cause des changements climatiques » passe.

*Réponse de Patrice Frey* : Non, malheureusement, les changements climatiques sont en bas de la liste des priorités des Américains.

*Question* : Plusieurs discussions se concentrent sur la réhabilitation de bâtiments résidentiels et commerciaux, mais que fait-on avec ceux qui n'entrent pas dans ces catégories comme les phares, les bâtiments militaires, etc.?

*Réponse* :

- Par exemple, pour les bâtiments militaires, il y a un document fait par l'armée américaine sur la réutilisation de ce type de bâtiment.
- Peut-être pourrait-on faire le cheminement inverse et se demander quels services le bâtiment peut offrir?
- La loi canadienne sur les gares ferroviaires est un bon exemple d'une stratégie appliquée à une typologie précise.

Patrice Frey a terminé cette période de discussion en ouvrant la porte sur les communautés durables. Selon elle, ce mouvement est une approche communautaire qui pourrait être un bon véhicule pour que la discipline de la conservation passe son message.

Dinu Bumbaru a fait une intervention en mentionnant que seulement 10 % du « stock » bâti en Angleterre est protégé selon une politique de conservation, une donnée qui démontre que malgré qu'un territoire recèle de bâtiments historiques, il ne faut pas tenter de tout contrôler.

**Rapporteur 4:** Niki McKernan, Étudiante / Student, Carlton University

**Session 4: Méthodologies et directives / Methodologies and Guidelines**



**Niki McKernan**  
(Photo : Sh. Inanloo Dailoo, 2011)

**Victoria Angel** examined the American, Canadian and British heritage guidelines to see how they dealt with sustainability.

- US: First mention sustainability in 2000 symposium at Pocintico, NY.  
The multi-stakeholder coalition called for the re-alignment of heritage and sustainability principles.
- UK: Of the three examined, they are the most aggressive in incorporating sustainable values.
- Canadian: Their guidelines revolve around the practices of conservation vs. rehabilitation. The guidelines have recently been updated to include sustainability issues.
- Trends: all are values based. None have deviated from the values of the international charters. All can be said to possibility cause conflict between heritage and sustainability values, and could, as a result, stifle creativity in sustainability initiatives. None have demonstrated they are unsustainable or sustainable.

**Gerry McGeough** spoke of values based approach to a reuse project on UBC campus. He spoke of UBC campus as a culture landscape.

- Established a set of 9 values for the campus. Used values to inform reuse process.
- Value that applied to the 50's building was the notion of modern openness.
- Spoke of process they went through to determine whether to reuse existing 50's building or to build a new building. Factors used to make decision: cost, campus fit functionality and ecology.
- Decided to go the adaptive reuse route.
- Discovered that renovating the existing building cost less than building new, and construction time was less than half that of building new.
- UBC Campus has a very aggressive ecological and sustainable action plan.
- UBC renewal project has proven that integrated planning and design is effective. Stressed that it is important consider the campus building collectively.

**Susan Ross** provided an overview of the federal government's policies on sustainability. She discussed how the issues of sustainability have been incorporated into the standards and guidelines. Some of the strategies for sustainable design and development include:

- Integrated and interdisciplinary design
- Extending the life of a building through maintenance
- Understanding and documenting the current conditions and operations of the asset
- Following a minimum intervention approach
- Creating durable upgrades and additions
- Finding sustainable and appropriate uses for buildings

Stressed that we need to understand where research is being conducted, who is doing the research, and what research still needs to be done. This includes: best practices, cleanup, documentation, adaptive reuse, and community consultation.

**Rapporteur 5:** Laure Emery, Étudiante / Student, Université de Montréal

**Session 5: Pertinence de l'Agenda 21 du Québec et le quatrième pilier de la "culture"**  
**Pertinence of Quebec's Agenda 21 and the Fourth Pillar of "Culture"**



**Laure Emery**  
(Photo : Sh. Inanloo Dailoo, 2011)

**Véronique Guèvremont:** Agenda 21 est un projet du Ministère de la culture mais également un projet gouvernemental. Mme Guèvremont, enseignante en droit à l'Université Laval, travaille sur ce projet depuis deux ans.

Elle a apporté une précision par rapport à l'usage du mot «pilier» qui cause encore débat et qui est généralement remplacé par le terme «dimension» culturelle du développement durable.

Agenda 21 est un projet actuellement en cours d'élaboration.

Un rappel du contexte international et national sur le développement durable et son lien avec la culture a été fait.

Le contexte international : Le discours sur le développement durable en lien avec la culture est quelque chose de récent bien que la réflexion sur ce lien soit plus ancienne. Le développement durable est plus généralement associé à des questions environnementales qu'à la culture. Mais ce lien existe et retrouve progressivement sa place au travers de plusieurs textes.



Dans les années soixante, la question du développement est remise en question et la conférence de Stockholm (1972) parle alors d'«écodéveloppement». Le rapport Brundtland (1987) donne la première définition de développement durable mais la culture y est absente.

Un début de reconnaissance de ce lien entre culture et développement durable se fait à l'UNESCO dans les années 1990, mais il faut attendre le sommet mondial pour le développement durable à Johannesburg en 2002, pour qu'il soit reconnu que la diversité culturelle est nécessaire au développement durable et c'est en 2005 que les premières mesures d'obligation sont mises en place, afin que la culture soit intégrée dans les politiques, à tous les niveaux, pour créer des conditions propices au développement durable.

Le contexte national : La considération de la notion de développement durable à l'échelle internationale a eu des répercussions à l'échelle nationale. Au milieu des années 2000, un plan puis une loi portant sur le développement durable sont mis en place. Cette loi a menée, au Ministère de la culture, à l'élaboration de l'Agenda 21 avec pour but de faire reconnaître la culture comme notion fondamentale du développement durable à l'ensemble de la société québécoise.

Un comité de liaison est alors mis en place. Chaque membre de ce comité consulte un groupe (constitué de chercheurs, citoyens, groupes environnementaux etc.) afin de produire un rapport.

La contenu de l'Agenda 21 a ensuite été abordé : il se définit par des objectifs et des principes à respecter. Lorsque l'on parle de culture dans le développement durable, on parle non seulement des produits de l'expression culturelle tels que les livres ou la musique mais également de tout ce qui englobe les arts et lettres, les modes de vie, les traditions et croyances, etc. Il faut prendre la culture dans son sens le plus large.

Ainsi, trois éléments déterminent trois objectifs de l'Agenda 21 :

- l'humain, qui est au cœur du développement durable et qui dépend des ressources naturelles et culturelles
- les ressources, on cherche alors à responsabiliser l'humain pour assurer la pérennité de ces ressources. La culture est vue comme un héritage à transmettre.
- le temps, afin de répartir équitablement les ressources.

D'autres objectifs et sous-objectifs portant sur des questions économiques, environnementales etc. s'ajoutent à ces trois objectifs principaux.

La question principale reste comment appliquer ces objectifs ? L'usage de lignes directrices qui renvoient à des principes du développement durable est une aide. On en retrouve dans la loi mise en

place ne 2006 mais Agenda 21 va plus loin, notamment car la question culturelle est omise en 2006. On cherche alors à transposer des principes du développement durable pour le pilier de la culture. Les principes d'intégration, de prévention, d'information, de valorisation, etc. sont autant de principes applicables à la culture.

Agenda 21 doit guider les décideurs, faire passer du stade du discours à celui de la réalisation des objectifs.

**Rapporteur 6:** Laure Emery, Étudiante / Student, Université de Montréal

**Session 6: Études de cas / Case Studies**

**Gavin Affleck** est architecte et fondateur de la firme Affleck + de la Riva, firme fondée en 1995 et qui travaille régulièrement en restauration. Il nous a présenté le projet de l'école Victoria à Montréal, qui doit accueillir l'École des métiers du tourisme et de l'hôtellerie de Montréal.

G. Affleck nous remet en mémoire des termes présents lors de cette table ronde tels que paysage, expertise, éthique, communauté, design ou encore intégrité, qui sont des mots qui font sens dans ce type de projet. Il nous a ensuite présenté le projet au travers de trois grandes parties : l'équipe, les défis et objectifs, et enfin le projet en lui-même.

- L'équipe

L'aspect multidisciplinaire, la notion d'expertise et le rôle de l'architecte en tant qu'expert sont mis en avant. L'équipe comporte également un «groupe communautaire» présent depuis longtemps, qui, à défaut d'avoir une grande expertise technique, dispose d'un poids important sur le plan éthique.

- Les défis et objectifs

Le projet porte sur une école du XIXe siècle restée dix ans sans occupation. Le premier travail a porté sur la consolidation du bâti, travail effectué il y a deux ans.

La Commission Scolaire de Montréal est un client qui porte déjà un intérêt pour le patrimoine, ce qui constitue un atout. L'étude historique réalisée pour le projet a entre autre révélé que cette école était autrefois en zone rurale, alors qu'elle se situe aujourd'hui dans l'une des zones les plus denses de la ville. L'école est constituée de trois bâtiments : le plus ancien est l'école en elle-même, construite en 1887 et qui a connu très peu de modifications depuis sa construction ; une pension attenante et un gymnase ajouté plus tardivement.

- Le projet

La CSDM a perdu sa présence dans la ville et ce projet va permettre de la réaffirmer. En réutilisant un ancien bâtiment scolaire tout en lui conservant le même usage, elle agit, d'une certaine manière, de façon durable, en allant au delà du simple recyclage de bâtiment.

Ce projet touche à la notion de communauté et de design intégré et il a fait l'objet de beaucoup de consultations. La recherche du lien avec la ville est un élément important du projet et un parking a

été exproprié afin d'y créer un parc. Ce parc permettra de redonner une image, un contexte de campagne autour de cette école anciennement rurale. Les interventions contemporaines sont importantes et affirmées, notamment par la construction d'un «pont» en verre qui relie les édifices.

**Rapporteur 6:** Judith Herrmann, Étudiante / Student, Université de Montréal

**Session 6: Études de cas / Case Studies**



**Judith Herrmann**  
(Photo: Sh. Inanloo Dailoo, 2011)

**Laurier Turgeon** presented the importance of the intangible cultural heritage, understood as meanings of objects, memories, artistic expressions, traditions or rites, for sustainable development. It is important for two principal reasons: 1) It puts the human being into the centre of safeguarding and transmitting the intangible cultural heritage; 2) It communicates a much more integrative perception of heritage, which considers both material and immaterial aspects. In addition, the intangible cultural heritage allows for understanding the dynamic nature of and processes involved in cultural diversity. According to Turgeon, safeguarding the intangible cultural heritage does not focus on protecting architectural evidence, but centers on practices and traditional knowledge embodied in people. Sustainable development in this sense means recovering the memory of a site and including a site's use into restoration strategies. An important element in respect to sustainability is repetition and the transmission of practices. Turgeon went on in mentioning that an existing confusion about the perception of heritage posed a problem for sustainable development: respecting the sources of origin and continuity of the intangible cultural heritage on one hand and allowing change and transformation on the other. He concluded that the intangible cultural heritage raised the awareness for sustainable

development as well as for a dynamic vision of heritage. As a final point, he suggested to integrate an article on the importance of tangible and intangible heritage for advancing sustainable development into respective legal provisions.

In his contribution on *les Habitations Jeanne-Mance* in Montreal, **Mark Poddubiuk** presented sustainability strategies for the conservation of modern architecture. He began the presentation by providing an overview of the history of the area. In the middle of the 1980s, the area was transformed. The creation of green spaces and circulation paths for pedestrians and vehicles created isolation and had a negative impact as concerned sustainability. Poddubiuk went on in explaining his work as part of a sustainability plan for the area, which focused on improvements on the building and site level. As concerns buildings he identified a lack of air circulation, which posed energy problems. To improve environmental performance, it is envisaged to enhance the building envelope, and thus reduce energy production. Densification and redesign of courtyards were presented as major sustainability strategies on the site level, in response to today's importance of using exterior space and of fluidity. In conclusion, Poddubiuk stressed the need for taking into account the surrounding area, the different stakeholders, and the understanding of how the area works today and in the past.

**Daniel Pearl** presented sustainability approaches for rehabilitation of surplus properties, using the example of *Benny's Farm* in Montreal. He emphasized that the aim of the rehabilitation project was that all stakeholders, including the inhabitants, had an idea of sustainable development, so that a common vision would guide the project. He also addressed the question of renovation versus reconstruction and of adequate densification strategies for housing. Pearl then presented five ethical principals, three socio-cultural ecological and two socio-cultural humanist issues. The first three principles, which operate on building, site, and landscape level, are as follows: 1) On-site energy production; 2) Building envelop efficiency and comfort (reduction of energy loss and increase of long-term health issues); 3) Long-term envelop durability (performance monitoring). The other two principles concern larger social questions, which should enable stakeholders to self-actualize, and refer to the idea of simplest design (versus overspecialization). In the end, Pearl stressed the importance of the landscape approach, which conveyed an inclusive perception of space.

## **Discussion**

One of the important issues that followed Session 6 was the relationship between intangible cultural heritage and sustainable development was discussed.

In the discussion, Laurier Turgeon explained that the intangible cultural heritage and the conservation of memories and spirit of place served two main interests: 1) Safeguarding it in terms of documentation and the creation of inventories; 2) Using the knowledge for restoration projects.

Sean Fraser emphasized the relationship between biological and cultural diversity. Both do not focus on single elements as isolated and static objects, but are understood as complex, living systems and dynamic relations between the elements, which need to be preserved. He noted that the intangible cultural heritage brought the system to life. Turgeon stressed that what made the safeguarding of intangible cultural heritage difficult was that it was a transmitted practice. By comparing it to language, he noted that heritage followed the same principles. Christina Cameron added that oral transmissions changed over time and that the question was how to deal with transformation of this oral heritage (When? How? Why?).

## 6. CONCLUSION

La 6ième Table ronde de Montréal (2011) s'est penchée sur l'impact des stratégies de durabilité sur la pratique de conservation du patrimoine au Canada et à l'étranger. Le sujet a tenu compte de la définition évolutive du développement durable qui est passée d'un concept de la protection de la biodiversité et de l'environnement physique à un concept qui inclut la diversité culturelle. La Table ronde avait pour but de développer une compréhension plus claire de la signification du développement durable et de son impact sur les théories et la pratique de la conservation du patrimoine. Le programme a été structuré pour présenter une vue d'ensemble générale sur le sujet suivi de sessions spécifiques sur la relation entre les deux mouvements d'un point de vue philosophique et pratique; l'adéquation des méthodologies et des directives existantes en matière de conservation du patrimoine; et la pertinence de la dimension culturelle de l'Agenda 21 du gouvernement du Québec. Plusieurs études de cas présentés ont démontré l'application des théories de durabilité sur d'actuels projets de conservation du patrimoine.

### **Document d'information**

Un document préparé par Herb Stovel et distribué avant la rencontre s'intitulait *Reconciling Sustainability and Conservation: An Unexpectedly Long Road*. Désireux de trouver des façons comparables de «comptabilisation» dans les deux secteurs, il a évalué différents modèles pour mesurer la conservation du patrimoine et la durabilité, incluant les efforts de la Commission internationale pour le développement durable qui a adapté des cadres de surveillance établis par l'Organisation de la coopération économique et du développement (OCDE). Il a proposé deux principes clés : premièrement, la conservation du patrimoine doit fonctionner dans un cadre intégré de durabilité ; deuxièmement, les systèmes de mesure pour la durabilité du patrimoine doivent se perfectionner pour présenter un portrait large et crédible. Herb Stovel a conclu en incitant les praticiens en conservation du patrimoine à établir des façons de mesurer qui peuvent apporter une solution constructive à des objectifs en apparence irréconciliables.

### **Perspectives historiques**

Christina Cameron a préparé le terrain en décrivant l'évolution de la définition du développement durable depuis ses débuts en 1987 avec la citation de Brundtland «un développement qui répond aux besoins du présent sans compromettre la capacité des générations futures à satisfaire



leurs propres besoins » et a poursuivi avec le Sommet de la terre de Rio de Janeiro de 1992 où les trois piliers du développement durable ont été défini par environnement, économie et société et réaffirmé lors du Sommet mondial de 2005.

Elle est remonté jusqu'à l'introduction des considérations culturelles dans les travaux toujours en cours menés avec les peuples autochtones sous les auspices de la Convention sur la diversité biologique (1992); elle a spécifiquement fait référence à l'Akwé : Kon 2004 : les directives facultatives de Akwé : Kon pour la conduite d'études sur les impacts culturels, environnementaux et sociaux des projets d'aménagement ou des aménagements susceptibles d'avoir un impact sur des sites sacrés et sur des terres ou des eaux occupées ou utilisées traditionnellement par des communautés autochtones et locales. Elle a terminé en notant les efforts de l'UNESCO pour soutenir la diversité culturelle par une Déclaration (2001), une Convention (2005) et un Rapport mondial (2009) qui conclut que « la diversité culturelle peut être vue comme la dimension clé transversale du développement durable. »



**Christina Cameron**  
(Photo: Sh. Inanloo Dailoo, 2011)

Dans son exposé d'orientation, Julian Smith a présenté un plan en trois parties de l'évolution de la pratique en matière de conservation du patrimoine au Canada. Selon son analyse, la première phase s'est produite dans les années 60 et 70 où les écologistes et ceux qui s'occupaient de la conservation des lieux historiques ont tous deux réagi contre les activités de pro-développement dominantes. En tant qu'élément d'un mouvement de contre-culture, écologistes et militants du patrimoine ont résisté aux forces de développement et ont lutté pour sauver les ressources naturelles et patrimoniales. La

deuxième phase, dans les années 80 et 90, a vu des experts en patrimoine joindre la tendance en s'impliquant dans le processus d'approbation, de conception et de développement.

Cette implication s'est traduite par le développement de systèmes de désignation et par l'insertion d'intérêts patrimoniaux dans la planification actuelle et les processus environnementaux comme LEED (Leadership en conception énergétique et environnementale) et des études d'impact. Dans l'actuelle troisième phase, les pratiques courantes et la mainmise des experts s'effritent en faveur de la médiation et de l'action menée par la communauté. Le défi pour les praticiens en conservation du patrimoine, selon Julian Smith, est de ne pas s'inquiéter de perdre la camaraderie du rôle de contre-culture et de trouver des moyens de travailler dans cet environnement non hiérarchique et intégrant. Il a conclu en proposant une approche de médiation paysagère au développement durable des propriétés patrimoniales qui mèneraient à de nouveaux partenariats et parviendraient à des solutions négociées et non-confliktuelles.

### **La relation entre la conservation et le développement durable**

Les sessions 2 et 3 ont porté de façon générale sur la relation entre la conservation et le développement durable d'un point de vue philosophique et pratique. Sean Fraser s'est servi de son expérience à la Fiducie du patrimoine ontarien pour argumenter que de meilleures solutions remplacent le processus légaliste binaire de tout gagner ou de tout perdre. Il a préconisé une approche plus intégrante entre la pratique de conservation du patrimoine naturel et culturel. Notant les buts parallèles de préserver la biodiversité et de préserver la diversité culturelle, il a observé le même besoin pour la protection de l'habitat de subvenir aux besoins de toutes les espèces (y compris les êtres humains), une exigence pour les terres interconnectées, l'importance de la suivie pour comprendre les enjeux et le danger que les monocultures détruisent la survie de la diversité. Il a vivement conseillé une alliance de ces gestes isolés pour obtenir la durabilité. Sean Fraser a aussi fait la distinction entre les composantes manufacturées et artisanales favorisant le travail qui est local et contribue aux communautés durables. Jill Taylor a parlé de la multitude de systèmes qui existent pour mesurer la durabilité environnementale des projets en constatant que le patrimoine culturel est marginalisé. Elle a soutenu que les systèmes de mesure, y compris LEED, travaillent contre des projets de réutilisation adaptatifs et ont besoin de plus de flexibilité pour mieux refléter la durabilité sociale, incluant des facteurs comme l'esprit, la compréhension, la création d'emplois, la créativité et l'échelle humaine. « Quand », a-t-elle demandé de façon provocante, « des points seront-ils alloués pour ne pas nous voler nos paysages ? » Elle a conclu

en déclarant que les systèmes de mesure doivent être améliorés faute de quoi on devrait cesser de mesurer.

Martin Nielsen a utilisé le complexe Buchanan à l'Université de la Colombie-Britannique pour démontrer comment la durabilité et la conservation du patrimoine peuvent être intégrées avec succès. Les valeurs patrimoniales de ce complexe de cinq édifices d'après-guerre des architectes Thompson Berwick Pratt reposent sur sa conception esthétique et sa perméabilité à raz du sol. Déclarant que LEED ne fonctionne pas pour des projets de réutilisation adaptative, Martin Nielsen a fait un exposé sur l'application de l'Évaluation du Cycle de Vie (ACV) comme moyen d'obtenir la durabilité économique (meilleur marché), la durabilité environnementale (moins de déchets), la durabilité sociale (utilisation des artisans plutôt que des matériaux manufacturés) et la durabilité culturelle (échelle humaine et bien-être). Il a conclu en déclarant qu'au début de n'importe quel projet, il faudrait se demander « pourquoi le démolirait-on? »

À la session 3, Julia Gersovitz et Dinu Bumbaru ont décrit l'initiative des années 80 à Montréal pour lutter contre les démolitions et favoriser la réutilisation du bâti existant. Connue en tant que « trois Rs » (rénovation, restauration, recyclage), le programme a débuté en tant qu'approche communautaire pour des propriétaires de Montréal et est devenu par la suite le programme du patrimoine bâti de la Faculté de l'aménagement de l'Université de Montréal. Patrice Frey a présenté des résultats de recherche sur le rapport entre le développement durable et la préservation du patrimoine, une étude entreprise par la National Trust for Historic Preservation. Elle a expliqué que le programme de recherche a commencé par une préoccupation au sujet de l'usage de LEED et s'est tournée vers le processus décisionnel dans son entier pour les propriétés historiques. Elle a exploré comment les buts d'efficacité énergétique et les impacts du changement climatique affectent la pratique traditionnelle en matière de conservation. Patrice Frey a présenté des statistiques sur la mesure de performance du bâti à travers différentes époques qui ont clairement plaidé la cause de la réutilisation adaptative ainsi que des projets-pilotes sur des éco-quartiers et les actions pour réaliser des économies d'énergie.

### **Les méthodologies existantes et les directives**

La session 4 a exploré l'impact des méthodologies existantes et des directives sur les objectifs de durabilité et sur les valeurs patrimoniales. Victoria Angel a comparé trois directives de conservation existantes au Canada, aux États-Unis et au Royaume-Uni. Toutes les trois ont des cadres fondés sur les valeurs avec des directives menant aux principes pour la prise de décision de projet. Selon elle, le

récent Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (2008) d'English Heritage présente le cadre le plus holistique et le plus progressif pour le changement de gestion, incluant la considération des valeurs écologiques et sociales. Gerry McGeough a décrit le programme UBC Renews et son approche innovatrice pour un équilibre entre la durabilité et la conservation du patrimoine. Utilisant une approche de paysage culturel qui considère les idées incarnées dans le territoire, le programme a adopté un programme de développement de conception interdisciplinaire et intégré pour atteindre des résultats créateurs qui répondent à la fois à des objectifs de durabilité et patrimoniaux.

Susan Ross a présenté les exigences du gouvernement fédéral pour des stratégies de développement durable pour ses biens immobiliers et son exigence actuelle d'utiliser LEED pour des rénovations. Décrivant le progrès de rendre plus verts des bâtiments fédéraux, elle a reconnu que ce cadre quantitatif ne s'est pas nécessairement adapté à la connaissance traditionnelle et aux autres valeurs sociales.

### **L'Agenda 21 du Québec**

À la session 5, Véronique Guèvremont a présenté l'Agenda 21 proposé par le gouvernement du Québec qui vise à replacer la culture au centre du développement durable dans la province. Elle a donné une vue d'ensemble historique de l'émergence de la préoccupation internationale pour le développement durable comme contrepoint au développement économique non contrôlé, à commencer par la conférence de Stockholm sur l'environnement humain en 1972 en passant par Brundtland (1987) et Rio de Janeiro (1992) jusqu'à la Convention 2005 sur la protection et la promotion de la diversité des expressions culturelles qui exige que les pays incluent la culture dans les projets de développement. Notant que la dimension culturelle a été ajoutée à la dernière minute à la loi du Québec de 2006 portant sur le développement durable, elle a expliqué que l'Agenda 21 propose une définition plus large de la culture et des principes pour intégrer cet aspect dans la politique et la pratique.

### **L'importance de la communauté et des valeurs sociales**

La session 6 a considéré plusieurs études de cas qui démontrent une intégration des conditions de durabilité et des préoccupations en conservation du patrimoine. Il est intéressant de noter la présence publique des communautés et des valeurs sociales dans tous les cas. Dans son explication des processus employés pour le changement de vocation de l'École Victoria à Montréal, Gavin Affleck a mis l'accent

sur deux éléments : l'importance d'une équipe multidisciplinaire et la valeur d'une approche à l'échelle du territoire pour mener un projet. Le processus de conception intégrée a réuni divers intérêts incluant des experts techniques et des groupes communautaires différents. Il a souligné l'importance d'établir des partenariats (Commission scolaire, école de cuisine) pour une réutilisation adaptative réussie. Laurier Turgeon a examiné l'implication des stratégies de développement durable sur le patrimoine culturel immatériel, en soulignant l'importance de conserver la connaissance traditionnelle et l'artisanat comme éléments essentiels. Il a précisé qu'il y a eu une perte critique de la connaissance traditionnelle au Québec dans le secteur de la construction et du renforcement des compétences. Il a également soulevé l'enjeu complexe de la transmission dynamique de la connaissance, observant que chaque génération ajoute sa propre couche créatrice et son usage culturel.

Mark Poddubiuk a décrit la vision initiale pour les Habitations Jeanne-Mance à Montréal, une expérience sociale de logement des années 50 qui visait l'échelle humaine, les espaces publics collectifs et les espaces verts bien boisés. Il a présenté un plan de développement durable qui a pour but d'augmenter la densité et améliorer la qualité du logement tout en maintenant la fluidité originale et le concept social. Daniel Pearl a parlé des stratégies de durabilité pour remettre en état les biens immobiliers excédentaires utilisant l'exemple de Benny's Farm à Montréal. Il a identifié les deux principaux moteurs qui ont guidé le projet : le langage du paysage et la vision communale de la communauté. Il a décrit les deux types d'évaluation du cycle de vie du projet : le premier, une analyse standard axée sur l'énergie qui a considéré les coûts d'investissement, et le deuxième, une évaluation sociale qui a mesuré les valeurs immatérielles qui pourraient être maintenues et les coûts d'exploitation qui pourraient potentiellement affecter les générations futures.

## **Vue d'ensemble**

Après les comptes rendus des rapporteurs étudiants, Natalie Bull a résumé son impression de la 6ième Table ronde de Montréal en trois points. Sa première observation a été que pour faire des incursions dans le débat sur le développement durable, les partisans de la conservation du patrimoine doivent élargir leur centre d'intérêt pour inclure tout le parc immobilier existant comme façon de mettre l'emphase sur la valeur intrinsèque des matériaux existants et éviter l'impact environnemental de la démolition. Son deuxième point a mis l'accent sur la nécessité de s'éloigner des confrontations légales pour aller vers la médiation du paysage culturel. Troisièmement, elle a noté que les praticiens en conservation du patrimoine doivent s'éloigner du langage technique afin d'impliquer la majorité des

canadiens dans les enjeux à l'étude. « We are in the people business. Places people values get preserved. »

### **Des questions pour la recherche**

La riche discussion de la 6ième Table ronde de Montréal a soulevé d'importantes questions qui requièrent davantage de recherche. Par exemple, beaucoup de commentaires ont été formulés autour de la nécessité d'aller au-delà de la valeur patrimoniale pour identifier d'autres valeurs incarnées dans le patrimoine bâti, y compris la valeur de ressources, la valeur sociale, la valeur culturelle, la valeur de carbone, la valeur de l'énergie intrinsèque et la valeur inhérente. Quelles sont les valeurs essentielles et comment peuvent-elles être mesurées ? On a beaucoup insisté sur l'insuffisance des processus de planification existants et des politiques d'utilisation des terres qui favorisent les monocultures. Quel genre de processus de planification et de politiques d'utilisation du territoire encouragerait la diversité culturelle et biologique ? Les participants étaient unanimes à déclarer que les projets exigent des apports diversifiés de toutes dimensions, y compris économique, environnemental, social et culturel. Quelles disciplines doivent être impliquées et quel est l'équilibre optimal entre la participation d'experts et de non-experts? Le débat de l'artisanal versus le fabriqué a identifié la valeur sociale positive d'utiliser le travail local et les incidences négatives sur l'environnement d'importer des composants manufacturés. Comment ces deux aspects peuvent-ils être quantifiés et mesurés? Inspiré par le mouvement Slow Food, l'idée a émergé d'adopter le processus Slow Design qui impliquerait les communautés et les artisans de construction afin de réaliser un produit durable. À quoi ressemblerait un processus Slow Design et de quelle façon pourrait-il être introduit dans la pratique?

### **La voie à suivre**

La Table ronde 2011 de Montréal a réuni des chercheurs et des experts canadiens et internationaux en matière de conservation du patrimoine et dans des disciplines connexes en provenance des secteurs, public, privé et non- gouvernemental. Elle a réussi à stimuler un vif échange sur la recherche, l'expérience et les observations au sujet du développement durable et de la conservation du patrimoine. Le sujet a provoqué un remarquable éventail d'opinions et a soulevé de nouvelles questions de recherche dans le domaine de la conservation. Les participants ont détecté le changement de paradigme qui exigera des spécialistes de la conservation du patrimoine de se diriger vers le courant dominant et de trouver des moyens de mesurer la contribution à la durabilité de la

conservation du patrimoine existant, que ce soit des bâtiments, des paysages ou de la mémoire. De plus, ils ont pensé que la réutilisation adaptative pourrait servir de tremplin à la créativité et au perfectionnement du design. Ces défis réclament de nouveaux modèles et des mécanismes qui réunissent tous les participants dans l'effort d'harmoniser les politiques et les processus hétérogènes dans un système holistique à l'échelle du paysage.

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**Chaire de recherche du Canada en patrimoine bâti**

**avril 2011**

## 6. CONCLUSION

The 6<sup>th</sup> Montreal Round Table (2011) examined the impact of sustainability strategies on heritage conservation practice in Canada and abroad. The topic took into account an evolving definition of sustainable development that has shifted from a concept to protect biodiversity and the physical environment to one that includes cultural diversity. The Round Table aimed at developing a clearer understanding of the meaning of sustainable development and its impact on the theories and practice of heritage conservation. The agenda was structured to present a broad overview of the subject followed by specific sessions on the general relationship between the two movements from a philosophical and practical perspective; the adequacy of existing heritage conservation methodologies and guidelines; and the pertinence of the Quebec government's Agenda 21 on the cultural dimension of sustainability. Several case studies were presented demonstrate the application of theories of sustainability to actual heritage conservation projects.

### Background Paper

Herb Stovel prepared a background paper that was distributed before the meeting entitled *Reconciling sustainability and conservation: an unexpectedly long road*. Motivated by the desirability of finding comparable ways of “counting” within the two areas, he evaluated different models for measuring heritage conservation and sustainability, including efforts by the international Commission for Sustainable Development which adapted monitoring frameworks established by the Organisation of Economic Co-operation and Development (OECD). He offered two key principles: first, heritage conservation must work within an integrated sustainability framework; secondly, measurement systems for heritage sustainability must improve to present a broad and credible picture. Herb Stovel concluded by encouraging heritage conservation practitioners to establish ways of measuring that can support constructive resolution of apparently *irreconcilable* objectives.

### Historical Perspectives

Christina Cameron set the stage by outlining the evolution of a definition of sustainable development, beginning with the 1987 Brundtland phrase, “development which meets the needs of the present without compromising the ability of future generations to meet their own needs,” and continuing with the Earth Summit in Rio de Janeiro in 1992 where the three pillars of sustainable



development were defined as environment, economy and society which was re-affirmed by the United Nations World Summit in 2005. She then traced the introduction of cultural considerations, led by ongoing work with Indigenous peoples under the auspices of the Convention on Biological Diversity (1992); she specifically referred to the 2004 Akwé: Kon voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding impact on sacred sites and on lands and waters traditionally occupied or used by Indigenous and local communities. She closed by noting UNESCO's efforts to support cultural diversity through a declaration (2001), a convention (2005) and a world report (2009) that concludes by stating that "cultural diversity can be seen as a key cross-cutting dimension of sustainable development."<sup>1</sup>

In his keynote address, Julian Smith set out a three-part framework for the evolution of heritage conservation practice in Canada. According to his analysis, the first phase occurred in the 1960s and 1970s when environmentalists and historic preservationists both reacted against mainstream pro-development activities. As part of a counterculture movement, environmentalists and heritage advocates resisted development forces and fought to save natural and heritage resources. The second phase in the 1980s and 1990s saw heritage experts joining the mainstream by involving themselves in design and development approvals processes. This involvement took the form of developing designation systems and inserting heritage interests into existing planning and environmental processes like LEED (Leadership in Energy and Environmental Design) and impact assessment. In the current third phase, mainstream practices and the domination of experts are disintegrating in favour of mediation and community-driven action. The challenge for heritage conservation practitioners, according to Julian Smith, is not to worry about losing the camaraderie of the counterculture role and to find ways to work in this non-hierarchical and integrative environment. He concluded by proposing a mediated landscape approach to sustainable development of heritage properties that would bring new partnerships and achieve negotiated, non-confrontational solutions.

### **Relationship between Conservation and Sustainable Development**

Sessions 2 and 3 focused on the general relationship between conservation and sustainable development from a philosophical and practical perspective. Sean Fraser used his experience at the Ontario Heritage Trust to argue for better solutions to replace the binary legalistic process of winning or losing all. He urged a more integrative approach between natural and cultural heritage conservation practice. Noting the parallel goals of preserving biodiversity and preserving cultural diversity, he

observed the same need for habitat protection to support all species (including human beings), a requirement for interconnected lands, the importance of monitoring to understand issues and the danger that monocultures will destroy life-sustaining diversity. He urged an alliance of these isolated movements to achieve sustainability. Sean Fraser also distinguished between manufactured components and craftsmanship, arguing that labour is local and contributes to sustainable communities. Jill Taylor spoke about the multitude of systems that exist to measure the environmental sustainability of projects and the degree to which cultural heritage is marginalized. She argued that measuring systems, including LEED, work against adaptive reuse projects and need to more flexibility to better reflect social sustainability, including factors like spirit, understanding, job creation, creativity and human scale. “When,” she asked provocatively, “will points be allocated for not robbing us of our landscapes?” She concluded by stating that measuring systems need to be improved or one should stop measuring. Martin Nielsen used the Buchanan complex at University of British Columbia to demonstrate how sustainability and heritage conservation can be integrated successfully. The heritage values of this post-war five-building complex by Thompson Berwick Pratt architects lie in its aesthetic design and its permeability at ground level. Stating that LEED does not work for adaptive reuse projects, Martin Nielsen explained the application of Life Cycle Assessment (LCA) as a means of achieving economic sustainability (cheaper), environmental sustainability (less waste), social sustainability (use of craftsmen rather than manufactured materials) and cultural sustainability (human scale and well-being). He concluded by stating that at the start of any project, one should ask “Why would you tear it down?”

In session 3, Julia Gersovitz and Dinu Bumbaru described a 1980s initiative in Montreal to combat demolitions and encourage re-purposing of existing building stock. Known as the “three Rs” (renovation, restoration, recycling), the program began as community outreach for Montreal property owners and eventually became the built heritage program at the Faculté de l’aménagement at the Université de Montréal. Patrice Frey presented research findings on the relationship between sustainable development and heritage preservation undertaken by the National Trust for Historic Preservation. She explained that the research program began with a concern for the use of LEED and gravitated to the entire decision-making process for historic properties. It explored how energy efficiency goals and climate change impacts affect traditional conservation practice. Patrice Frey presented statistics on measuring the performance of existing building stock from different eras that

clearly made the case for adaptive reuse, as well as pilot projects on eco-districts and actions to achieve energy savings.

### **Adequacy of Existing Methodologies and Guidelines**

Session 4 explored the impacts of existing methodologies and guidelines on sustainability goals and on heritage values. Victoria Angel compared three existing conservation guidelines from Canada, United States and United Kingdom. All three have values-based frameworks with guidelines leading to principles for project decision-making. According to her, English Heritage's recent *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment* (2008) presents the most holistic and progressive framework for managing change, including as it does consideration of ecological and social values. Gerry McGeough described the UBC Renews program and its innovative approach to balancing sustainability and heritage conservation. Using a cultural landscape approach that considers ideas embodied in space, the program adopted an interdisciplinary and integrated design/development program to achieve creative results that meet both sustainability and heritage objectives. Susan Ross presented federal requirements for sustainable development strategies for its real property and its current requirement to use LEED Silver for renovations. While describing advances made to greening federal buildings, she recognized that this quantitative framework did not necessarily accommodate traditional knowledge and other social values.

### **Quebec's Agenda 21**

In session 5, Véronique Guèvremont presented the Quebec government's proposed Agenda 21, which aims to reposition culture within sustainable development in the province. She gave an historical overview of the emergence of international concern for sustainable development as a counterpoint to uncontrolled economic development, beginning with the Stockholm conference on human environment in 1972 through Brundtland (1987) and Rio de Janeiro (1992) to the 2005 Convention on the protection and promotion of the diversity of cultural expressions which requires countries to include culture in development projects. Noting that the cultural dimension was added at the last minute to Quebec's 2006 law on sustainable development, she explained that Agenda 21 proposes a broader definition of culture and principles for integrating this aspect into policy and practice.

## **The importance of community and social values**

Session 6 considered several case studies which demonstrate an integration of sustainability requirements and heritage conservation concerns. It is interesting to note the public presence of communities and social values in all cases. In his explanation of the processes used to re-purpose Victoria School in Montreal, Gavin Affleck highlighted two elements: the importance of a multi-disciplinary team and the value of a landscape approach to drive the project. The integrated design process brought together various interests including diverse technical experts and community groups. He underscored the importance of building partnerships (school commission, cooking school) for successful adaptive reuse. Laurier Turgeon examined the implications of sustainable development strategies for intangible cultural heritage, arguing for the importance of conserving traditional knowledge and craftsmanship as an essential element. He pointed out that there has been a critical loss of traditional knowledge in Quebec in the area of construction and building skills. He also raised the complex issue of dynamic transmission of knowledge, observing that each generation adds its own creative layer and cultural use. Mark Poddubiuk described the initial vision for the Habitations Jeanne-Mance in Montreal, a social housing experiment of the 1950s that aimed at human scale, collective public areas and well-treed green spaces. He presented a sustainable development plan that aims to increase density and improve housing quality while maintaining the original fluidity and social concept. Daniel Pearl spoke to sustainability strategies for rehabilitating surplus properties using the example of Benny's Farm in Montreal. He identified two key drivers that guided the project: the language of landscape and the communal vision of the community. He described two kinds of life cycle assessment for the project: the first, a standard energy-focused analysis that looked at capital costs and the second, a social assessment that measured intangible values that could be retained and operational costs that could potentially burden future generations.

## **Overview**

Following the reports from student rapporteurs, Natalie Bull summarized her impression of the 6<sup>th</sup> Montreal Round Table in three points. Her first observation was that, to make inroads into the sustainable development debate, heritage conservation advocates need to expand their focus to include all existing building stock as a way to emphasize the embedded value of existing materials and the avoided environmental impact of demolition. Her second point focused on the need to move away from legal confrontations towards mediation of the cultural landscape. Thirdly, she noted that heritage

conservation practitioners need to move away from technical language in order to engage mainstream Canadians in the issues under discussion. “We are in the people business. Places people value get preserved”

## **Research Questions**

The rich discussion at the 6<sup>th</sup> Montreal Round Table raised important questions that require further research. For example, many comments were made about the need to move beyond heritage value to identify other values embedded in built heritage, including resource value, social value, cultural value, carbon value, embedded energy value and inherent value. Which values are essential and how can they be quantified? Much was made of the shortcomings of existing planning processes and land use policies that favour monocultures. What kind of planning processes and land-use policies would encourage cultural and biological diversity? Participants were unanimous in stating that projects require diverse input on all dimensions, including economic, environmental, social and cultural. Which disciplines need to be involved and what is the optimum balance between expert and non-expert participation? The craftsmanship versus manufacturing debate pointed to the positive social value of using local labour and the negative environmental impact of importing manufactured components. How can these two aspects be quantified and measured? Inspired by the slow food movement, the idea emerged about adopting a slow design process that would involve communities and trades in order to achieve a sustainable product. What would a slow design process look like and how might it be introduced into practice?

## **The Way Forward**

The 2011 Montreal Round Table brought together Canadian and international researchers and experts in heritage conservation and related disciplines from the public, private and non-governmental sectors. It succeeded in encouraging a lively exchange of research, experience and observations about sustainable development and heritage conservation. The subject elicited a surprisingly broad range of views and raised new research questions for the field of conservation. Participants sensed the shifting paradigm that will require heritage conservation specialists to move towards the mainstream and to devise ways of quantifying the contribution to sustainability of conserving existing heritage, be it buildings, landscapes or memory. Further, they believed that adaptive reuse could serve as a springboard for design creativity and enhancement. These challenges call for new models and

mechanisms that bring all stakeholders together in an effort to harmonize disparate policies and processes into a holistic system at the landscape scale.

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**Canada Research Chair on Built Heritage**

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Table Ronde 2011 Chaire de Recherche du Canada en Patrimoine Bâti  
Round Table 2011 Canada Research Chair on Built Heritage

Institut de Statistiques de l'UNESCO / UNESCO Institute of Statistics

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