Heritage Notes
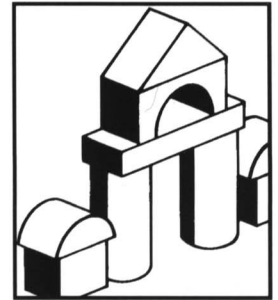
Definitions of Preservation Terms

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Number 3

The Bitumount tar sands plant, north of Fort McMurray, Alberta, before interim stabilization was carried out to seal the buildings against the elements and vandals.

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The increased activity in the field of heritage resource preservation has given rise to a number of terms, which must be understood in order to be able to make use of the technical literature on the topic. While some of these terms may differ from country to country and with time, those discussed in this *Heritage Note* have been derived from current North American publications in the preservation field.

The term *heritage resources* refers to all cultural objects which have been handed down from the past, including buildings, their furnishings and the environments in which they are located.

Preservation: This is an umbrella term used to describe the entire field of activities which ensure the survival of our heritage resources. Preservation includes the study, protection, development, administration, maintenance and interpretation of all heritage resources, whether they are objects, structures or the environments in which they were found.

Frequently, the term *preservation* is prefaced by the words *historic* or *architectural*, to denote that the range of artifacts under consideration is confined to the built environment. These prefaces are not always necessary, as the range of artifacts to which the term refers can usually be deduced from the context in which they are used. The term is also used to describe a specific strategy for dealing with heritage resources and is defined below.

Conservation: Canadians often use the terms conservation and preservation interchangeably, while in the United States, the term preservation is used almost exclusively to describe heritage-related activities. Canadians adopted the term conservation from British practitioners, who used the word to refer to the treatment of a broad range of artifacts. From the mid-1960s onward, it developed a more dynamic connotation than the word preservation because it implied the re-use of conserved artifacts in their original environments. On the other hand, it was argued that the word preservation had developed a static connotation because it involved taking individual artifacts out of use.

In North America, the distinction is sometimes made between the preservation of heritage resources and the conservation of natural resources. The term conservation is also used to refer to a highly specialized field of activity which has traditionally been concerned with the protection of artifacts in museum collections. Within this specialized field, a *conservator* is one who works on the treatment and the protection of museum artifacts.

In recent years, *architectural conservation* has evolved as a new profession, uniting the skills of the preservation architect, who preserves historic buildings, and the conservator, who preserves materials and objects. The architectural conservator regards buildings as artifacts to be protected, combining the perspective of the architectural historian with the technical approach of the architect and the scientific focus of the conservator.

Preservation Strategies

A number of philosophical approaches or *preservation strategies* have been developed to deal with the broad range of architectural artifacts in the built environment. These approaches involve varying levels of physical intervention and are usually ranked by preservationists from the most conservative (1. Preservation) to the most radical (6. Reconstruction), based on the degree to which the building is altered. The preservationist's rule of thumb is: "It is better to preserve than to repair, better to repair than restore and better to restore than reconstruct". Experience has shown that the greater the level of intervention, the greater the risk of ruining a historic building as an artifact. Since historic buildings are often unique and irreplaceable, preservationists are cautious in choosing and executing a preservation strategy.

The Mine Manager's House at Leitch Collieries in Alberta's Crowsnest Pass is an example of preservation.

Preservation

In the narrow sense, the term preservation refers to the process of retaining the existing material, form and integrity of a building or site.

Preservation involves accepting a structure as it is and maintaining it in that state. Any changes that were made to the building over the years are retained as evidence of the building's development. When preserved in this way, a building can continue to be a primary source of research information. Because no physical evidence of the original building or the changes that have been made to it over time are destroyed or covered over during the process, preservation is considered to be the safest strategy. Interventions are limited to the application of preservative treatments and the installation of protective systems, such as fire and security alarms. These are done to protect and maintain the building without altering its

appearance. This strategy is said to protect the building's *integrity,* meaning that it is still true to its own character and history.

An example of preservation is the Mine Manager's House at Leitch Collieries in Alberta's Crowsnest Pass. This building has been maintained in a ruined state. Here, preservation has been limited to stabilization of the existing building components to reduce the rate of deterioration and ensure public safety.

Until recently, few buildings were preserved using this strategy alone. Generally, it was assumed that a structure should be restored, and would only be preserved until sufficient funds were available for restoration. The inaccuracy of a number of restorations in the past have led preservationists to re-evaluate this approach. As a result, greater emphasis is now being placed on preservation, rather than restoration.

Rutherford House in Edmonton, the home of Alberta's first premier, was restored because of its historical significance.

On a less grand scale, Stephansson House has been restored as a provincial historic site. Located near Markerville, it was the homestead of one of Iceland's most revered poets.

Restoration

Restoration is the practice of returning a structure or site to its appearance at some earlier stage of its development. The particular period selected is usually determined by its historical association or for reasons of aesthetic integrity. Restoration involves the removal of any changes which were made after that period and the replacement of any missing earlier features. Since the value of a restoration is measured by its accuracy and authenticity, extensive research and highly specialized expertise are required to accomplish both accurate removal and authentic replacement of building components. Meticulous restoration is therefore slow and costly. Because of this, it is

The Home Grain Co. elevator is an example of vernacular architecture which was restored at the Ukrainian Cultural Heritage Village near Edmonton.

usually undertaken by large preservation organizations or government agencies, primarily for educational purposes. The usual intent of these groups is to restore only those buildings which are historically or architecturally significant. Examples include Rutherford House in Edmonton, the home of Alberta's first premier, and Stephansson House, near Markerville, the home of one of Iceland's most revered poets.

Recently, preservationists have argued that restoring only the houses of famous personages presents an elitist and obviously distorted view of the past. As a result, ordinary buildings are now being considered for restoration. For

example, a wide variety of vernacular buildings have been restored at the Ukrainian Cultural Heritage Village near Edmonton, the setting for a re-creation of Ukrainian pioneer life in the early years of the 20th century.

Renovation

Renovation or *recycling* are interchangeable generic terms used to describe the process of modifying a historic structure to meet today's standards in order to extend its useful life. Renovation is largely done by the private sector, usually for the purpose of making the project economically viable.

Renovation, which involves the widest range of preservation activities, includes the three processes of rehabilitation, adaptive re-use and remodelling (in order of increasing intervention). Preservationists categorize renovations as either sympathetic (or sensitive) to the existing building or not. Rehabilitation is usually sympathetic, while remodelling often isn't. Adaptive re-use may or may not be sympathetic, depending on the approach taken.

Rehabilitation is the process of modifying a historic building which is still being used for its original or a similar function so that it will meet current building codes. The aim is to retain those features which are historically, architecturally or culturally significant.

Rehabilitation may involve modifications such as the replacement of old fixtures or heating systems and the repair of deteriorated architectural features. Every effort is made to minimize the impact of these modifications to avoid destroying the character of the existing structure. An example of rehabilitation is the Lancaster Block in Calgary. The interior of this office building was upgraded so that it could continue in its original function, while the historic appearance of the exterior was maintained.

Adaptive Re-Use is the process of modifying an existing building so that it can be used for a new function. The building's significant features may or may not be retained. Many of

the alterations will be necessary to meet today's building codes. For example, an existing door may require a change in the direction of its swing. Often an original interior must be gutted if it is not compatible with the proposed new use. The LeMarchand Mansion in Edmonton is an example of adaptive re-use, in which an apartment block was recycled into commercial space.

Remodelling is the process of modifying an existing structure to meet today's standards, usually for aesthetic rather than functional reasons. In many cases, the building's historical, architectural and cultural significance are ignored. Remodelling may involve stripping the existing structure to the bare essentials and refinishing it so that it is indistinguishable from a new building. This particular approach is also called modernizing or redesigning. Another approach to remodelling involves the application of architectural details from different, usually earlier, periods to create the impression of an older building. Often the result of either approaches is a hybrid which is neither new nor old in appearance. Both are discouraged by preservationists, because the hybrid often becomes quickly dated or falsifies the past.

Reconstitution

Reconstitution is the process of piece-by-piece re-assembly of a structure's original building components, either in its original location or on a new site. This may be an appropriate method when the original building components have been torn apart or scattered throughout the site as a result of a disaster such as an earthquake. It may also involve the dismantling of a building when its original components are sound but lack structural integrity as a result of poor initial construction or subsequent failures. One of the most frequent reasons for reconstitution is land use change, which requires the relocation of a building to a new site. Often the building must be dismantled to facilitate the move. A number of museum villages have been formed in this way, such as Fort Edmonton in Edmonton and Heritage Park in Calgary.

The LeMarchand Mansion in Edmonton is an example of adaptive re-use, in which an apartment block was recycled into commercial space.

Preservationists are usually opposed to reconstitution on a new site, except as a last resort in order to preserve the building. In their opinion, buildings should not be viewed as portable artifacts just because we have the ability to move them. They argue that a building removed from the environment in which it was built loses its sense of place. Furthermore, the resulting gap may destroy the visual cohesiveness of the building stock from which it was removed and ruin the possibility of upgrading the area in the future.

Replication

Replication is the process of reproducing an exact copy of an existing building on another site. This strategy is seldom used with buildings. It is more commonly associated with moveable artifacts associated with buildings. A replica may be produced as a substitute for an artifact which was being damaged irretrievably in its original environment and had to be removed to a controlled environment for its protection.

Reconstruction

Reconstruction is the process of re-creating a building which no longer exists, on the basis of archaeological and historical evidence.

The value of reconstruction is in its accuracy, but attaining this may be virtually impossible. First, regardless of the academic and scientific resources available, reconstruction of some elements of the building is often based on conjecture when no evidence can be found. There is also the temptation to improve upon the past by adding features which never existed or leaving out some original features which may appear inappropriate to modern eyes. If new evidence disproves previous suppositions, re-created buildings cannot be easily modified to improve the accuracy of the reconstruction. Thus, reconstructions are almost inevitably

The Rideau Convent Chapel, as reconstituted in the new National Gallery of Canada.
Photo: National Gallery of Canada, Ottawa

revealed as inaccurate over time. For these reasons, preservationists view reconstruction as the most radical level of intervention.

Reconstruction can be rationalized in certain circumstances. For example, a reconstructed building may be necessary to make sense of a composition in which the original building played a vital role. For example, it was argued that the reconstruction of the Governor's Palace and Capital Building in Colonial Williamsburg, Virginia made the town plan easier to understand, because these buildings served as termini for two of the three axes. Frequently, reconstruction is justified because the building is intimately associated with a significant

historical person or event. Examples include Fort Edmonton, in Edmonton and the Fortress of Louisbourg, in Nova Scotia.

Preservation strategies are summarized in Table 1 below.

Preservation Treatment

While preservation strategies deal with an overall approach, preservation activities or treatments deal with the level of intervention to individual building materials and systems. These treatments may be used in any of the above preservations strategies. Having learned that treatments using new materials and techniques have often led to irreparable damage, preservationists advocate the most conservative treatment in any given case as it is usually the most easily reversed. The following preservation treatments are therefore ranked from the most conservative to the most radical on the basis of their reversibility.

Maintenance

Maintenance is a generic term used to describe various activities which will slow and attempt to arrest the rate of deterioration of the existing building materials and systems so that they can continue to perform their intended functions. The objective is to make the historic building last as long as possible. Maintenance is usually divided into three types - preventative, routine and emergency.

Table 1: Preservation Strategies for Buildings

Most conservative ⟵———————————————————⟶ Most radical					
Based on the amount of change to the existing state of the resource and the amount of conjecture required to make that change					
EXISTING BUILDING			RUIN	NEW BUILDING	
Unaltered	Altered		Reassembly	Copy	
To retain as is	To return to a specific period in time	To meet contemporary standards	To reassemble original components either *in situ* or on a new site	To reproduce a copy based on an existing building	To recreate a copy based on archaeological and historical evidence
1. Preservation	2. Restoration	3. Renovation Sympathetic ⟵————————⟶ Non-Sympathetic Based on the amount of change to the integrity and appearance of the resource	4. Reconstitution	5. Replication	6. Reconstruction

Retain both appearance and function	New function appearance may or may not change	New appearance function may or may not change
3.1 Rehabilitation	3.2 Adaptive reuse	3.3 Remodelling

Preventative maintenance refers to action taken to avoid expected failures. The simplest preventative action involves regular inspections or monitoring, to prevent fire, theft or vandalism. Regular inspections can help to determine the service life of materials and systems by measuring their rate of deterioration. Knowing how long something is likely to last aids in planning, either for immediate conservation or future repair.

Conservation is a preventative maintenance activity which involves the removal of harmful elements from existing materials. Two examples of conservation are fumigation to remove pests and surface cleaning of stone to remove air pollution's damaging deposits. Both treatments are undertaken by specialists.

Routine maintenance refers to activities which take place on a regularly scheduled basis. The most common form of routine maintenance is cleaning or housekeeping to remove deposits of soil before they can accumulate and cause deterioration. Work is done at frequent intervals so that the soil may be removed by simple methods which are least harmful to the surface being cleaned.

Emergency Maintenance refers to the immediate action taken to rectify an unexpected failure. An example of this measure would be covering a broken window with a piece of plywood until new glazing could be installed.

Repair

Repair is a generic term used to describe various activities which will strengthen existing building materials and systems that are salvageable. *Stabilization* and *consolidation* are included under this term.

Stabilization involves the introduction of new materials and systems to supplement existing ones which no longer perform their intended function. Stabilization treatments include both interim or long-term measures and are usually designed to be reversible.

Interim Stabilization anticipates a greater level of intervention in the future. Treatments must therefore be temporary and easily reversible so as not to prejudice future decisions. This may include the removal of a window sash and its replacement with a louvered vent. This treatment has the multiple advantages of protecting the sash, reinforcing protection from unwanted pests and improving air circulation, which will help to prevent decay. The Bitumount tar sands plant, north of Fort McMurray, Alberta was stabilized in this manner.

Long-term stabilization is done to permit use of the building in its deteriorated state when a greater level of intervention is not anticipated in the foreseeable future. In addition to performing the dual function of protecting the site over a long period of time and ensuring the safety of the visitors, treatments must also be designed to be reversible. For example, the remains of the coking ovens at the Leitch Collieries in the Crowsnest Pass, Alberta had soil placed over them as part of a long-term stabilization plan. The advantages of this treatment included the protection of the disturbed remains from further disturbance or theft, a reduction in the structure's deterioration rate, and the provision of safe access to visitors by covering unstable and hazardous remains.

Consolidation is a treatment to strengthen deteriorated materials to ensure their continued structural integrity. Traditional skills and materials are preferred, but when these are inadequate, modern techniques may be used, if they have been proven effective. A reversible procedure is safest.

Repointing is an example of a traditional consolidation technique which is reversible. The old mortar is raked out of the joints and replaced, using a mortar and technique which matches the characteristics of the original. An example of a modern consolidation technique which is not reversible is the strengthening of a timber by inserting metal rods in a bed of epoxy. This method of consolidation is acceptable when the timbers must be strengthened, yet retain their original appearance.

Replacement

This involves the removal of existing materials or systems which can no longer perform their intended functions and their replacement with as exact a substitute as possible. An example of replacement in kind would be the installation of new shingles which match the existing shingles in material, exposure and pattern. In some cases, however, this is impossible when materials are unavailable or when costs are prohibitive.

Retrofitting

This term refers to the various activities which will upgrade the existing building to meet contemporary standards. It involves the introduction of new materials or systems to increase the comfort and safety of the occupants. An example of this would be the installation of security and fire detection systems or new insulation.

Preservation treatments are summarized in Table 2 below.

Conclusion

The field of heritage resource preservation is likely to continue to evolve and as it does, so will the terminology associated with it. It is hoped that the above definitions will assist readers in their understanding of current literature in the field of historic preservation.

Table 2: Preservation Treatments for Materials

Most conservative ←——————————————————————————————→ Most radical							
Based on reversibility							
EXISTING MATERIALS AND SYSTEMS						INTRODUCTION OF NEW MATERIALS AND SYSTEMS	
To slow and attempt to arrest deterioration to permit continued performance			To strengthen existing materials to ensure continued performance			To replace existing materials which no longer can perform their intended functions	To upgrade to contemporary standards of performance
1. Maintenance			2. Repair			3. Replacement	4. Retrofitting
Action taken to avoid expected failures	Regulary scheduled activities	Immediate action to rectify unexpected damage	New materials are added to supplement existing materials	Existing materials are reinforced		Existing non-salvageable materials are removed and replaced in kind	New materials are introduced
1.1 Preventative	1.2 Routine	1.3 Emergency	2.1 Stabilization		2.2 Consolidation		
a) Conservation			a) Interim / b) Long-Term				

KEYS TO FURTHER INFORMATION:

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