

NOTES AND COMMENTS - NOUVELLES BREVES

GLASS COLLECTIONS IN CANADA/LES COLLECTIONS DE VERRE AU CANADA

Material History Bulletin no. 6 was devoted entirely to the subject of research on glass in Canada. As a follow-up to that thematic issue several major, Canadian institutions were invited to describe their glass collections for the information of their colleagues and other researchers. Published below are reports on the collections held by the New Brunswick Museum, Royal Ontario Museum, Ministère des Affaires culturelles du Québec, Montreal Museum of Fine Arts, National Museum of Man, Parks Canada, and Glenbow Museum.

Le Bulletin d'histoire de la culture matérielle n° 6 fut entièrement consacré à la recherche sur le verre au Canada. Afin de donner suite à ce numéro thématique, nous avons demandé à plusieurs institutions canadiennes importantes de nous faire parvenir des descriptions de leurs collections de verre dans le but de renseigner leurs collègues et d'autres chercheurs. Vous trouverez, ci-après, des comptes rendus sur les collections du Musée du Nouveau Brunswick, du Royal Ontario Museum, du ministère des Affaires culturelles du Québec, du Musée des beaux-arts de Montréal, du Musée national de l'Homme, de Parcs Canada et du Glenbow Museum.

New Brunswick Museum

The glass collection at the New Brunswick Museum is presently being catalogued as a whole for the first time, integrating both the historic and artistic components. In general, the collection can be divided into the following categories: bottles, lighting, tableware, whimsys, decorative, and miscellaneous.

The bottle collection consists of pop, beer, and dairy product bottles as well as pharmaceutical, patent medicine, and archaeological bottles and flasks. One of the more intriguing

pieces is a very large cylindrical container, deep purple in colour, whose original function is as yet unknown. Other pieces of particular interest include a small collection of Syrian flasks of a type which lasted from the time of Pompeii to the Frankish period.

The lighting collection, although not entirely glass, includes examples of kerosene lamps, candlesticks, and night lights. One pair of night lights is of a particular aesthetic quality in rose-coloured frosted glass with white enamel designs.

The tableware collection is by far the largest category and encompasses a multitude of styles and manufacturing processes, everything from low grade pressed ware to cut and etched crystal in drinking glasses, goblets, compotes, bowls, plates, platters, vases, trays, decanters, and cruet sets. To date research has focused on the pressed glass pieces which are of both American and Canadian manufacture. Examples of the former include Sandwich Glass as well as pieces in the "Westward Ho" and "Lincoln Drap" patterns. In addition there is a Log Cabin compote and several compotes in the "Three Face" pattern, to mention only a few. The collection of Canadian glass shows good promise although research in this area is far from complete. There are pieces from Ontario, Quebec, Nova Scotia, and New Brunswick, including a bowl and water pitcher in the "Maple Leaf" pattern and several Victoria Jubilee plates.

The decorative and miscellaneous categories contain several pieces worth mentioning. Of particular interest is a piece of Steuben Glass by designer Donald Pollard entitled "Moby Dick." There are also vases by Tiffany and Gallé and, although not really part of the glass collection, a glass dress.

The collection of whimsies numbers less than a dozen pieces but includes four canes. Two of these are very similar in appearance -- solid and clear with a greenish tint and twisted the entire length, including the handles. Both appear to be very much like one made in Moncton, New Brunswick, by the

Humphrey Glass Works and illustrated in Gerald Stevens's book Canadian Glass c.1825-1925 (Toronto: Ryerson, 1967). Unfortunately no documented information has been found on either of these pieces although there is speculation that one may have been manufactured in Saint John, New Brunswick.

Fortunately there is documented proof that a clear glass, oval piece in the collection was definitely made in Saint John. Because there is as yet little information on glass works in this city, it is one of our most important pieces. The oval is for a tray and has an etched design of Maple Leaves and Bows around the circumference; the edges are bevelled and the centre design is comprised of a large rose above a Red Ensign and below this the word "Britania." This piece was made by the Maritime Art Glass Works which operated in Saint John from 1900 to about 1918. An advertisement for the firm reads:

Maritime Art Glass Works Ltd.
W.C. Bauer
124 - 132 City Road
Artists and Designers in Memorial
Windows, Ornamental Church Work,
Domestic Art Glass, Ground, Chipped
and Embossed and Bent Glass.
Manufacturers of Bevelled and Plain
Mirror Plates. High Class Metallic
Sash Work in Copper and German Silver.

Despite the fact that research on glass works and their production in Saint John is still in its infancy, it is known that the above firm was one of five that operated in Saint John between 1857 and 1918. Although only the glass oval has been positively identified as an indigenous piece, its workmanship indicates a fairly sophisticated glass manufacturing industry in Saint John -- at least during the latter two decades of the said time span.¹ Whether this was true as a whole can only be determined by further research, a process which is continuing.

NOTE

1. Information on the Maritime Art Glass Works was documented by Huia Ryder during the early 1960s when she was the Acting Curator of Art at the New Brunswick Museum. See Huia Ryder, "New Brunswick Glass," New Brunswick Museum Art Bulletin 6, no. 3 (March 1962).

Carol Laidlaw

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Royal Ontario Museum

The glass collections in the Royal Ontario Museum are probably the most diverse and representative in Canada. Although they lack many showpiece examples, they document the development of glass from ancient Egypt through the Roman Empire, the Islamic tradition, China, Europe, Britain, and North America. The Egyptian material consists of small bottles, jewellery, and fragments; some pieces are from known archaeological sites. The Greek and Roman collection includes over 700 items representative of most known ancient varieties with the exception of cameo glass and carved diatreta, both rare types. The Islamic collection, like that in the Greek and Roman Department, benefitted greatly from items donated by Helen Norton of Ayers Cliff, Quebec, in 1950. Mould-blown, cut, and enamelled glass -- both intact vessels and fragments -- are all represented in this section. The bulk of this collection dates from the seventh through the thirteenth century though some pieces are as late as the nineteenth century. Recent acquisitions have been made through archaeological excavations.

The Chinese glass in the Far Eastern Department is one of the most important collections outside China. It falls into two

divisions: archaic glass -- beads and other small pieces predating the third century A.D. -- and Chinese glass vessels of the eighteenth through twentieth centuries. The latter category includes a number of fine snuff bottles.

The collection in the European Department includes Continental, British, and American glass. The Continental holdings are notable for a number of pieces of early stained glass, early Venetian glass, a representative grouping of Spanish glass, and fine Germanic glass, particularly from the Biedermeier period. The British glass was mostly acquired in 1937 and 1945 as gifts financed by Col. and Mrs. R.Y. Eaton. It constitutes a broadly representative grouping, however, there are a number of private collections in the Toronto area which possess items that are individually finer. The American glass is a very small study group including a few key examples of various types. The art glass, ca. 1890-1940, is mostly of commercial quality. Exceptions are an English cameo glass vase, ca. 1880, attributed to Thomas Webb & Sons and a very fine Orrefors bowl cut by E. Aberg after designs by Simon Gate, ca. 1935. There are only three minor pieces by Tiffany. There is a small grouping of the glass of René Lalique as used in Canada and about twelve fine examples of current production lines from the leading Murano glasshouses, ca. 1956. The collection continues to be augmented largely by gifts of later material, most of them with a history of use in Canada. On rare occasions fine early pieces, Continental glass, art glass, and technically interesting examples are purchased.

The Canadiana Department has a collection of about 700 pieces ranging from the nineteenth to early twentieth centuries. This includes free-blown pieces attributed to the first known factory at Mallorytown, Ontario (1839-40), and the more industrialized products of mould-blown containers and pressed glass tablewares. Many of the pieces are part of the Edith Chown Pierce-Gerald Stevens Collection of Early Canadian Glass or from the Dominion Glass Centennial Research Foundation

Collection. In addition to intact vessels, there is archaeological material from the Burlington Glass Company, Hamilton, Ontario, and from the window glass factories at Como, Quebec, and Napanee, Ontario.

The strengths of the Royal Ontario Museum glass holdings reside in the institution as well as in the objects themselves. Many of the key examples from the collections were researched and re-catalogued for the special exhibition "A Gather of Glass" in the fall of 1977 and the cataloguing is generally up-to-date. The ancient glass in the Greek and Roman Department has been thoroughly catalogued and researched by John W. Hayes in Roman and Pre-Roman Glass in the Royal Ontario Museum (Toronto: Royal Ontario Museum, 1975). Black and white photographs and 35-mm colour slides of items in the collection are readily available at nominal cost. Aided by better than average library and collection resources, members of the staff are available to assist serious researchers in identifying problem pieces or with research. A list of staff members and their areas of interest follows:

Dr. John W. Hayes, Associate Curator, Greek and Roman Department -- ancient glass to medieval period.

Dr. Doris Dohrenwend, Associate Curator, Far Eastern Department -- Chinese glass.

Heri Hickl Szabo, Curator, European Department -- European glass to 1900 and early stained glass windows.

Jean Bacso, Associate Curator, European Department -- British glass (especially eighteenth century) and Continental glass to 1900.

Peter Kaellgren, Curatorial Fellow, European Department -- nineteenth and twentieth century glass including art glass.

K. Corey Keeble, Assistant Curator, European Department -- Canadian stained glass, particularly examples from Ontario firms.

Janet Holmes, Curatorial Fellow, Canadiana Department -- Canadian glass and pressed glass.

Peter Kaellgren

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Le verre de la Place Royale dans la collection de
la Direction de l'archéologie et de l'ethnologie
du Ministère des Affaires culturelles du Québec

Le projet de restauration de la Place Royale entrepris il y a près de vingt ans a nécessité des fouilles archéologiques sur quarante et un sites jusqu'à maintenant. La plupart de ces sites sont des sites domestiques. La Batterie Royale et l'Habitation de Champlain, situées dans le périmètre administratif de la Place Royale, ont aussi été excavées.

Ce quartier représente le plus ancien complexe d'architecture urbaine au Canada. Il est à l'origine de la ville de Québec et c'est à cet endroit que Champlain fit construire en 1608 une Habitation fortifiée. Aujourd'hui, la Place Royale regroupe environ quatre-vingt maisons dans la ville basse de Québec, entre le fleuve Saint-Laurent et le Cap aux Diamants (fig. 1).

Une importante collection de verre du XVII^e, XVIII^e et XIX^e siècles a été constituée à partir des fouilles réalisées sur les sites; environ 1,000 objets ont été catalogués jusqu'à maintenant. Cette collection comprend trente pour cent de verre français, quarante-cinq pour cent de verre anglais et vingt pour cent de verre nord-américain. Quelques artefacts viennent aussi de la Hollande et de l'Allemagne. Cette collection est entreposée à la Direction de l'archéologie et de l'ethnologie du Ministère des Affaires culturelles. Il reste encore soixante pour cent des artefacts qui n'ont pas été restaurés. Ces derniers ont été inventoriés de façon générale et seulement une partie de ceux-ci seront restaurés et catalogués éventuellement car plusieurs sont déjà représentés dans la collection.

Jusqu'à maintenant, trois études ont été publiées sur certains aspects de la collection. Une première étude analyse un groupe d'artefacts en verre (verre de table et bouteilles) provenant d'un ensemble clos, le site ayant été scellé entre 1836 et 1838.¹ Une seconde étude concerne un dépôt de bouteilles de la deuxième moitié du XIX^e siècle trouvé dans la cave d'une



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|-----|------|-----------------|
| 1 | 2276 | DOUERS |
| 2 | 2277 | MONTMAYE |
| 3 | 2278 | LANGLON |
| 4 | 2279 | LA GORCE NOIERE |
| 5 | 2280 | ROCHON |
| 6 | 2281 | OUYON |
| 7 | 2282 | LABRIERE |
| 8 | 2283 | ROUVRAY |
| 9 | 2284 | ROUSSEL |
| 10 | 2285 | ROUSSEL |
| 11 | 2286 | DU ROY |
| 12 | 2287 | LE DUC |
| 13 | 2288 | CHEVALER |
| 14 | 2289 | CHENAYE |
| 15 | 2290 | CHENAYE |
| 16 | 2291 | CANAC |
| 17 | 2292 | L'ARCHEVEQUE |
| 18 | 2293 | THIERRE |
| 19 | 2294 | CHASLE |
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| 99 | 2374 | CHENAYE |
| 100 | 2375 | CHENAYE |

Fig. 1. Plan de la Place Royale. (Photo: Direction de l'archéologie et de l'ethnologie, non catalogué.)

maison.² Une dernière étude, publiée récemment, s'attarde à certaines bouteilles du régime français provenant de différentes maisons.³ D'autres études seront publiées ultérieurement puisqu'un programme de recherche sur les artefacts a été mis sur pied depuis janvier 1976.

La Place Royale fut occupée par les français jusqu'en 1760. A partir de cette date, les marchands anglais ont graduellement remplacé les commerçants français. Le commerce, qui se faisait jusqu'alors avec la France, fut orienté surtout avec le Royaume-Uni. A partir de 1850, l'on constate un accroissement continu des échanges avec les Etats-Unis. Cette orientation ira en augmentant avec l'entrée massive des capitaux américains au tournant du XX^e siècle. La collection de verre de la Place Royale reflète donc ces changements de régime. Voici un bref aperçu de ces différents types de verre illustrés dans la collection.

Verre utilisé sous le régime français: 1608-1760

Les fouilles ont mis au jour divers types de contenants et de verre de table utilisés sous le régime français, plus particulièrement à la fin du XVII^e et au XVIII^e siècles. Peu d'artefacts en verre de la première moitié du XVII^e siècle proviennent des fouilles (fig. 2).

Parmi les contenants, l'on retrouve quelques bouteilles à panse renflée et au col court ou long, fabriquées soit en France, soit en Angleterre ou dans les Pays-Bas. Certaines, plus fragiles, sont en verre vert-olive transparent, d'autres, plus robustes, sont en verre noir épais. Plusieurs bouteilles à vin, fabriquées en France, font partie de la collection. Elles sont généralement en verre vert-olive transparent plus ou moins irisé. Le col est long, la panse cylindrique est plus large à l'épaule qu'à la base. Le cul est renfoncé assez profondément, de forme conique, avec un amas de verre dans le creux laissé par le pontil. Deux d'entre elles sont ornées d'un



Fig. 2. Verre utilisé sous le régime français, 1608-1760. De gauche à droite: bouteille carrée à gin, bouteille à panse renflée et à long col, bouteille à panse renflée et à col court, coupe en verre de fougère, coupe en verre blanc transparent de tradition vénitienne, gobelet en verre craquelé rosé, coupe en verre blanc transparent de tradition bohémienne, rafraîchissoir, bouteille cylindrique en verre aqua à long col, flacon cylindrique en verre aqua. (Photo: Yves Martin, Direction de l'archéologie et de l'ethnologie, no. de nég. 1979-R6-12.)

cachet en verre portant la lettre "A." Quelques bouteilles carrées, à quatre pans, communément appelées bouteilles à gin, ont aussi été mis au jour lors des fouilles. Elles sont de différentes tailles, en verre vert-olive foncé et proviennent toutes du même site. Elles ont probablement été fabriquée en Hollande.

D'autres récipients, appelés flacons, font partie de la collection. Ceux-ci sont généralement de forme carrée, à quatre pans, avec un goulot assez large destiné à recevoir des solides. Ils sont en verre aqua transparent et auraient été fabriqués en France. D'autres, en verre aqua aussi, sont cylindriques ou

carrés et possèdent un goulot étroit servant pour les liquides. Outre ceux-ci, divers types de contenants en verre aqua proviennent des fouilles: petites bouteilles médicinales plus ou moins allongées, fioles de pharmacie, petites bouteilles pour l'huile, damejeannes à col très long, généralement clissées et destinées au transport du vin.

Le verre de table, sous le régime français, est représenté par différents types de gobelets et de coupes ainsi que par quelques objets exceptionnels tels que rafraîchissoirs, carafes, huiliers, jattes, burettes, coupes à fruits. Les gobelets trouvés à la Place Royale sont en verre blanc transparent ou en verre craquelé de couleur rosée. Ces derniers, fabriqués en France, étaient à l'origine blancs et transparents, mais à cause de la composition instable du verre ils ont perdu leur transparence initiale. Plusieurs gobelets portent un décor moulé en forme d'ondulations sur la paroi et quelques autres, en verre blanc transparent, sont gravés à la roue et auraient été fabriqués en Bohême.

La majorité des coupes utilisées sous le régime français sont en verre de fougère. Le nom vient de la cendre de fougère, riche en potasse, qui était utilisée comme fondant dans la fabrication du verre ordinaire en France. Ce verre est légèrement bleuté ou verdâtre et ses parois sont très minces. D'autres coupes sont en verre blanc transparent assez épais. Elles auraient probablement été fabriquées en France, selon la tradition bohémienne et seraient en demi-cristal. Certaines, à la tige délicate et bien façonnée, en forme de cigare tordu, rappellent le verre vénitien.

Le verre utilisé sous le régime français provient donc en grande majorité de la France. Si certains marchands ou militaires bien nantis possèdent quelques pièces de verre anglais, hollandais ou bohémien, c'est probablement par le biais de la métropole qu'ils peuvent se les procurer.



Fig. 3. Verre utilisé dans la période 1760-1850 sous le régime britannique. De gauche à droite: bouteille à vin muni du cachet "G. Allsopp 1773," bouteille octogonale à tabac, bouteille pour la moutarde sèche, coupe à la tige torsadée à l'intérieur, coupe à la tige taillée à facettes, coupe au bol gravé, petit gobelet à liqueur, gobelet en verre blanc transparent, carafe en verre taillé. (Photo: Yves Martin, Direction de l'archéologie et de l'ethnologie, no. de nég. 1979-R6-13.)

Verre utilisé dans la période 1760-1850 sous le régime britannique

Les artefacts en verre utilisés sous le régime britannique jusqu'en 1850 composent la plus grande partie de la collection. Des milliers de fragments de bouteilles ont été retrouvés dans les caves des maisons fouillées. La collection renferme aussi une grande variété de coupes de la deuxième moitié du XVIII^e et de la première moitié du XIX^e siècles ainsi que de la vaisselle de table raffinée telles des carafes en verre taillé, des coupes à fruits, des poivrières, des moutardiers, des burettes pour l'huile et le vinaigre (fig. 3).

Le contenant le plus répandu à cette époque est la bouteille cylindrique en verre noir épais. Fabriquée en Angleterre, elle est plutôt trapue avec un col court au début mais sa forme évolue: le col s'allonge et ses parois deviennent droites et cylindriques au début du XIX^e siècle. Ces bouteilles pourraient contenir du vin, de la bière ou toute autre boisson alcoolisée. Certaines d'entre elles sont ornées d'un cachet en verre, portant soit des noms de marchands, soit des initiales, des dates ou des armoiries. D'autres contenants, de formes et de couleurs variées, servaient à divers usages: bouteilles octogonales pour le tabac, bouteilles à fond pointu pour l'eau minérale, petites bouteilles pour l'encre, bouteilles petites et grandes pour la nourriture telle la moutarde sèche, l'huile et les marinades, petites bouteilles pour le parfum et les eaux de toilettes, petites bouteilles médicinales. Ces contenants étaient tous fabriqués en Angleterre, la plupart dans des moules.

Le verre de table utilisé sous le régime britannique jusqu'en 1850 est un verre blanc transparent, massif, et à base de plomb. Fabriqué en Angleterre, il est représenté dans la collection par plusieurs coupes finement travaillées ainsi que par des gobelets. La tige des coupes, souvent très haute, peut être ornée à l'intérieur d'un filet d'air opaque torsadé; elle peut être taillée à facettes ou simplement pleine et massive sans aucune décoration sauf une bulle d'air parfois à l'intérieur. Le bol, ordinairement uni, peut être gravé à la roue de motifs en forme de feuilles de vigne et de grappes de raisins, tel que représenté sur une coupe de la collection. Au XVIII^e siècle, le bol est généralement soit de forme ovoïde, soit en forme de trompette ou d'entonnoir rond. A la fin de ce siècle, il devient plutôt en forme de baquet et est souvent taillé à facettes.

Quelques gobelets en verre blanc massif à base de plomb font partie de la collection. Il en existe de très petits utilisés pour les liqueurs. On en trouve aussi de très grands, jusqu'à quinze centimètres de hauteur. Les plus répandus dans la collection mesurent entre sept et dix centimètres. Certains sont moulés dans des moules à motifs de losanges.

Le verre utilisé sous le régime britannique à cette époque provient donc en grande majorité d'Angleterre. Le commerce avec la France semble avoir arrêté brusquement en 1760. Comme commerce avec la Nouvelle-Angleterre étant pratiquement inexistant à cette époque, il en résulte que les habitants se servaient surtout de contenants et de vaisselle de table fabriqués en Angleterre exclusivement.

Verre utilisé dans la période 1850-1900

Le verre utilisé à la Place Royale entre 1850 et 1900 est surtout représenté dans la collection par une grande variété de contenants (fig. 4). La vaisselle de table, que ce soit des verres à boire ou des ustensiles, s'y fait beaucoup plus rare. Ceci peut s'expliquer par le changement de vocation de Place Royale. A cette époque, ce quartier, autrefois habité par des familles, revêt un caractère beaucoup plus commercial. Les rez-de-chaussée de plusieurs maisons situées sur la rue St-Pierre sont louées à des commerces tandis que les étages supérieurs sont loués à des bureaux de notaires et d'avocats. On y retrouve aussi plusieurs tavernes et hôtels.

De plus, on commence à attribuer une fonction bien spécifique aux contenants d'usage domestique. On retrouve ainsi dans la collection tout un éventail de récipients: plusieurs bouteilles pour le gin et aussi pour le bitter, différentes formes de flacons pour le whisky, le brandy et le cognac, quelques damejeannes et bouteilles pour le vin, des bouteilles de différentes tailles pour la bière et le whisky, des bouteilles à fond rond et à fond plat pour l'eau gazeuse, plusieurs petites bouteilles pour les médicaments brevetés et non-brevetés, quelques jarres de pharmacie, des bouteilles pour le parfum, l'eau de toilette, les cosmétiques, la nourriture et l'encre. Plusieurs de ces contenants portent des inscriptions qui sont, le plus souvent, le nom et l'adresse du fabricant local, parfois le nom du marchand importateur. La



Fig. 4. Verre utilisé dans la période 1850-1900. De gauche à droite: bouteille pour la bière, bouteille à fond plat pour l'eau gazeuse, flacon pour le cognac ou le whisky; bouteille pour les marinades, bouteille pour l'eau de toilette, bouteille pour l'encre, petite bouteille à médicaments, bouteille pour le bitter, bouteille carrée à gin. (Photo: Yves Martin, Direction de l'archéologie et de l'ethnologie, no. de nég. 1979-R6-11.)

grande majorité de ces contenants sont fabriqués aux Etats-Unis et au Canada. On continue toutefois à en importer d'Europe.

On retrouve aussi quelques ustensiles en verre pressé pour le service à la table: sucrier, salière et poivrière, huilier. Ceux-ci étaient, pour la plupart, importés des Etats-Unis. Plusieurs verres à boire de différentes formes, en verre moulé, ont été recueillis dans les fouilles. Il s'agit probablement de vaisselle utilisée dans les tavernes et les hôtels.

La collection de verre de la Place Royale représente donc trois siècles d'activités dans un quartier urbain dont la

vocation a changé au cours des siècles. Cette collection demeure accessible aux chercheurs de différentes disciplines pour fins de recherche. C'est une collection dont certains artefacts proviennent de contextes bien datés archéologiquement. Elle peut alors servir, dans certains cas, de référence pour d'autres sites.

NOTES

1. Nicole Genêt, "Analyse des artefacts provenant d'un ensemble clos à Place Royale," Les maisons Guérault et Vanfelson à Québec: étude du matériel archéologique, Ministère des Affaires culturelles, Direction générale du Patrimoine, dossier 26 (Québec, 1977), pp.8-23.
2. Louise Décarie-Audet, La maison Dupont-Renaud à Québec: un dépôt de bouteilles du 19e siècle, Ministère des Affaires culturelles, Direction générale du Patrimoine, dossier 27 (Québec, 1977).
3. Paul Hanrahan, "Bottles in the Place Royale Collection," Bulletin d'histoire de la culture matérielle 6 (automne 1978): 52-73.

Louise Décarie-Audet

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Montreal Museum of Fine Arts

Many countries and forms are represented in the glass collections of the Montreal Museum of Fine Arts. The first examples of glass acquired were bottles and goblets made by a Venetian in the early 1860s in imitation of the work of the Eastern Mediterranean glassmakers. They were presented to the museum in 1917, one year after the creation of the Decorative Arts section by F. Cleveland Morgan. Morgan, one of the younger

members of the Museum at the time, later held the office of president for ten years. The most significant contributions to the collections have been in the form of donations, ranging from an outstanding collection of Eastern Mediterranean glass to a large Waterford chandelier from the palace of the Nizam of Hyderabad.

The earliest example of the glassmaker's art is an Egyptian core-wound alabastron of the Eighteenth Dynasty with rim finished in the form of a lotus flower capital. This is among the 180 pieces presented to the museum by Harry A. Norton, a Montreal collector and connoisseur. Marbled jugs and bowls, sand-core alabastron, free-blown flasks with snake-thread decoration, millefiori bowls, and unguentarium are indicative of the variety of shapes and techniques in the Norton gift (see fig. 1). An iridescent scale coats much of the glass to a greater or lesser degree particularly enhancing the appearance of mould-blown flasks and pressed glass bowls. The size and condition of a large, free-blown, Roman cinerary urn with cover, dating from the first to second century A.D., is another important vessel in the same collection. The best-known object given by Harry Norton is an early fourteenth-century Syrian Mosque lamp, twenty-five centimetres high, in deep blue glass with three handles. An inscription running around the body reads "Made by the order of His Excellency Tu Su, the Bey of Sauf Addin An Nasir" (Mamluk sultan of Egypt and Syria, 1345-46).

Another important Mosque lamp and a handsome globular jar not in the Norton group are singled out for different reasons. The lamp is also fourteenth-century Syrian but much larger and its particularly lovely shape is rendered more beautiful by its cool, limpid, olive green colour (fig. 2). The jar, Palestinian from the Roman period, was presented in 1961 to Georges P. Vanier, Governor-General of Canada, by David Ben Gurion, prime minister of Israel, in appreciation of an enjoyable stay in Ottawa. In 1969 Madame Vanier gave the jar to the Montreal Museum in memory of her husband.



Fig. 1. Left to right: Double unguentarium (height 17 cm, width 7.5 cm), Syrian, 4th-5th century A.D., transparent glass, cat. no. 53.Dg.131; sprinkler flask (height 12 cm), ca. 3rd century A.D., blown, transparent glass, cat. no. 53.Dg.87; jar (height 7.5 cm), Egyptian or Syrian, 4th-5th century A.D., transparent glass, cat. no. 53.Dg.126; flask (height 10.3 cm), probably Syrian, 4th century A.D., transparent glass, cat. no. 53.Dg.132. Gift of Harry A. Norton. (Photo: Montreal Museum of Fine Arts, neg. no. 2110.)

England, Ireland, Canada, and the Eastern Mediterranean area already referred to, are represented by numerous examples in the collection but for other countries only a few or even a single fine piece of the glassmaker's art must suffice, even for such famous regions as Bohemia and Venice. An instance of a



Fig. 2. Mosque lamp (35.5 cm), Syrian, 1330-60 A.D., enamelled glass, cat. no. 60.Dg.1. Gift of Mrs. W. Durie McLennan. (Photo: Montreal Museum of Fine Arts, neg. no. 2113.)

solitary but fine specimen of its kind is a deep blue rosewater sprinkler from Persia. The slim snake-like neck curves up to the trumpet mouth and though it is dated towards the end of the seventeenth and possibly the beginning of the eighteenth century, it repeats a shape already known through many centuries and one to be copied up to the present one. Predating the sprinkler by a hundred years is a five Venetian tazza decorated with a gold scale pattern and rows of coloured enamel dots.

A few seventeenth-century German enamelled flasks and tumblers follow traditional patterns of naïve likenesses of young women set amid a scattering of blossoms. They are typical of their kind and quite charming. Finer and more delicate is a

beautiful example of Zwischenglaser in the form of an eighteenth-century Bohemian tumbler. It depicts huntsmen and hounds in a formal garden scene engraved in gold and silver leaf on the outer surface of the tumbler's inner glass; the outside shell is faintly ribbed but bare of decoration. Zwischenglaser consists of two glasses, one made to fit exactly into the other, the decoration being on the outside of the inner vessel. The two layers are fastened together by a colourless cement or by fusion.

As recently as 1973 there was virtually no Canadian glass in the museum. When this lack came to the attention of two members unknown to each other, one established a purchasing fund for Canadian glass and the other donated over 260 pieces to the collection.

As mentioned before English and Irish glass is reasonably plentiful in the museum's collection. Waterford comprises more than half of the Irish group with the most important object being an outstanding chandelier once in the palace of the Nizam of Hyderabad (fig. 3). The chandelier is truly fit for a king. Glittering shafts rise from cut-glass canopies, pendant lustres hang from every tier and shining loops link the faceted arms. The English glass includes drinking glasses in all forms, decanters, candlesticks, and bowls of many types plus another chandelier.

Spanish glass consists of two pieces from the famous factory of La Granja de San Ildefonso. One is an agate glass flagon and the other is an etched pocket glass bearing the name of the owner, Juan Gallego; both date to the eighteenth century.

René Lalique and Louis Comfort Tiffany are represented by excellent specimens, and a fine Steuben goblet commemorating the bicentennial year of the United States is the much-appreciated gift of the American Women's Club of Montreal.

Stained glass panels range in date from 1245 to 1961. Two from the Lady Chapel, Abbey Church of St. Germain-des-Près, Paris, are outstanding treasures of the museum and always on



Fig. 3. Cut glass chandelier (height 155 cm, width 120 cm), Irish Waterford, late 18th century (after 1780), cat. no. 970.Dg.4. Gift of anonymous donor. (Photo: Montreal Museum of Fine Arts, neg. no. 2125.)

view. Two border fragments once thought to be part of the same window were finally identified as being from the Lady Chapel of Rouen cathedral, ca. 1300. In another vein are minstrel figures designed by William Morris and executed by Pozzi and Singleton of Morris and Company in 1882. Still more modern is a stained glass mosaic set in cement -- the work of François Gillen of Paris in 1961.

The policy of the museum is not to ignore the work of young Canadian artists. Therefore from time to time good examples of their art are added to the collection resulting in a very interesting and worthwhile group of taste, talent, and promise.

Ruth A. Jackson

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National Museum of Man

The National Museum of Man's glass collection, accumulated over the past twelve years by the museum's History Division, comprises approximately 750 pieces covering representative styles used in Canada primarily during the nineteenth and twentieth centuries, with a few early pieces from the late eighteenth century. This summary does not include approximately 200 lamps and accessories plus several hundred bottles which the division usually treats as separate categories. Since very little of the glass has ever been the subject of exhibition or publication, the purpose of this outline is to describe the collection briefly for the information of researchers.

Canadian glass is the largest category in the collection, in accordance with the mandate of the History Division to collect objects which reflect the social and economic history of the non-indigenous peoples of Canada. The origins of many of these pieces are currently being re-evaluated, and many will be re-named and re-catalogued as on-going archival and archaeological research is published.

The earliest and rarest Canadian glasswares in the collection are three pieces attributed to the Mallorytown glassworks, ca. 1839-40. The rest of the Canadian glass is primarily pressed glass tablewares, with approximately sixty patterns and variants represented. Included in this group are several "new" patterns, some of which were originally acquired as examples of American pressed glass but which were subsequently found to have been produced in Canada. The collection is not intended to include every pattern made (or thought to have been made) in Canada, but rather to provide a representative selection illustrating the production of Canadian glasshouses. Glass which has been cut or engraved by Canadian companies from imported blanks is also being collected.

American glass has an almost equal importance in the History Division's collecting programme as examples of material which would



Vase with applied decoration (height 22.5 cm), ca. 1885, made by Stevens and Williams of Brierly Hill, Staffordshire, England. Cat. no. 978.33.2. (Photo: National Museums of Canada, neg. no. 78-6478.)

have found its way into many Canadian homes. Several fine pieces of Sandwich glass have been acquired, plus examples of American art glass of various periods. One primary interest in American glass is in its potential exhibition value and it is in this area that pressed glass assumes particular importance. Because of the close relationship between Canadian and American pressed glass styles, the common use of moulds, and the abundance of American pieces found in this country, these items can be used in future exhibits illustrating the perilous nature of glass manufacturing in Canada and the effect of north-south trade patterns on Canadian social and economic life.

A smaller section of the collection, but still significant, contains examples of English and Irish glass of the type imported

to Canada, especially in the late eighteenth and early nineteenth centuries. The acquisition of English and Irish glass is perhaps one of the most difficult areas of collecting because of the guidelines which have been established to collect primarily pieces with a Canadian history or association. Many of these pieces, because of their age, have lost all record of their original provenance and often no legitimate association with Canada can be proven. Despite these restrictions, some fine representative objects have been acquired.

Tablewares are not the only types of glass represented in the collection. Many interesting Canadian whimsies have been collected, as well as toys, perfume and other dressing table containers, paperweights, epergnes, etc., from both Europe and North America. Art glass forms a fundamental part of the collection, with Victorian, Art Nouveau, and Art Deco objects by some of the most prominent names in this field -- Tiffany, Gallé, Lalique, Daum Frères, Quezal, Steuben. These are not always the finest examples of the art, but, once again, represent styles which would have been available in Canada at the height of their popularity.

Researchers who are interested in visiting the glass collection are invited to contact the History Division which hopes to be operating normally again sometime in the next few years. Acquisition and cataloguing is continuing during this difficult period while the main storage building is closed, and it is hoped that soon the collection can be used, as it should be, as a basis for research, publications, and exhibitions.

Judith Tomlin

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Le verre dans les collections de réserve
de la Division de Présentation de Parcs Canada

La Division de Présentation de Parcs Canada est, grâce à son mandat, responsable du réameublement d'époque pour l'ensemble de ses lieux historiques nationaux. Afin de s'acquitter de cette tâche, la Division accumule depuis bientôt quinze ans d'importantes collections de réserve dont la nature et l'usage qu'on leur destine les différencient des autres collections muséologiques canadiennes.

Les pièces qui constituent ces collections de réserve se divisent en deux catégories. La première collection se compose d'objets originels et de reproductions qui serviront au réameublement éventuel des divers lieux historiques. La deuxième, dite collection de prototypes, regroupe, pour la plupart, des objets originels à exemplaire unique qui serviront de référence pour la reproduction de répliques.

La diversité des lieux à interpréter est le facteur primordial déterminant l'échantillonnage des collections dont l'aspect hétéroclite peut, à première vue, surprendre. En effet, le réameublement d'un poste militaire de 1812, tel Fort St-Joseph en Ontario, requiert des objets différents par rapport à celui de St. James en Colombie-Britannique ou, si l'on veut pousser davantage la comparaison, par rapport à celui d'un vapeur à roues des années 1930, le S.S. Klondike, au Yukon.

La disponibilité éventuelle plus ou moins assurée de certains objets et la nature de certains lieux à interpréter, qu'il s'agisse d'un poste de traite ou d'un magasin général, sont des facteurs qui influencent l'attitude du conservateur lors de l'achat et qui expliquent l'accumulation d'un même objet dans la collection.

Si on examine de près la collection de verre, on constate que les divers facteurs énoncés précédemment en influencèrent la composition. Cette collection présente une multitude d'objets



Fig. 1. A gauche,
bouteille de vin (hauteur
22.3 cm), verre noir,
Angleterre, 1790-1810,
n° de cat. X77.337.30;
à droite, carafe et verre
(hauteur 22.6 cm et 10.1
cm), verre de plomb,
Angleterre, ca. 1780-90,
n° de cat. FC78.6.1a,b
et X76.186.1. (Photo:
Parcs Canada, n° de nég.
AF 806.)

domestiques, de qualité et d'époque différentes. Elle passe du verre à vin et de la carafe en cristal de plomb du XVIIIe siècle (fig. 1) au couvert de table en verre moulé de la fin du XIXe siècle, sans oublier les nombreux appareils d'éclairage représentant un siècle et demi d'histoire.

La Division a acquis, en 1970 et en 1973, deux collections importantes, soit quelque 5,000 bouteilles et récipients de verre qui constituaient le fonds d'inventaire d'une pharmacie de la Nouvelle-Ecosse. Bon nombre de ces bouteilles nous parvinrent emballées, étiquetées et remplies de leur contenu d'origine, offrant ainsi une gamme complète de produits pharmaceutiques et de beauté, d'essences variées et de spiritueux (fig. 2).

Tel que mentionné précédemment, afin de répondre aux prérequis de certains lieux exigeant plusieurs exemplaires d'un



Fig. 2. Exemples de différents produits pharmaceutiques de la collection de prototypes des collections de réserve. (Photo: Parcs Canada, n^o de nég. AF 809.)

même objet, le conservateur doit recourir, à défaut de pièces originelles suffisantes, à des répliques. Dans le cas de l'étalage du magasin de Fort St. James, le conservateur du projet, Wayne Colwell, utilisa deux genres de répliques. L'un d'eux est la réplique partielle, c'est-à-dire qu'on remplit un contenant originel, par exemple une bouteille de cognac ou de whisky, d'un contenu imitant le produit voulu sur lequel on met une reproduction d'étiquette et un bouchon.

Cependant, dans le cas d'un autre produit, en l'occurrence une bière d'importation américaine, le conservateur dut faire



Fig. 3. Bouteilles de bière (hauteur 22.9 cm), ca. 1890, répliques, n° de cat. X77.505.1. (Photo: Parcs Canada, n° de nég. AF 805.)

faire une réplique complète de l'objet. Après maintes recherches au Canada et aux Etats-Unis, monsieur Colwell dénicha une compagnie du New Jersey, se spécialisant dans la reproduction d'objets en verre, genre souvenirs, qui accepta de reproduire un échantillon conforme à nos spécifications. La réplique terminée, on procéda à l'embouteillage et à l'emballage du produit afin d'obtenir le résultat escompté (fig. 3) soit une bière embouteillée par la California Bottling Co. sous étiquettes "JOHN WIELAND" ou "IMPERIAL." Ce n'était pas la première fois que cette division de Parcs Canada avait recours à la reproduction, mais avec un matériau comme le verre, cette expérience fut une innovation.

Se servant du verre comme exemple, nous avons tenté d'illustrer dans ce bref exposé, une des nombreuses facettes des

collections de réserve de Parcs Canada, tout en mettant l'accent sur le défi impliqué dans leur préservation et leur utilisation.

Suzanne Lacasse Gales

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The Archaeological Glass Collections
of Parks Canada

The archaeology programme of Parks Canada, which began in 1962, is carried out generally to support the restoration, reconstruction, and interpretation of National Historic Parks and Sites. In the years since 1962 the department has conducted archaeological excavations all across Canada, both underwater and on land. The types of sites vary widely, including those used by the French and British military, fur traders, explorers, settlers, and industrialists.

Collection. Because the glass has been found in archaeological excavations it is generally in poor conditions and mostly in fragments; complete or restorable objects are rare. Nevertheless, from these fragments it is usually possible to determine the form/function of an object, its date, and sometimes the country of manufacture. The archaeological record provides some of the best evidence of what was available in Canada and what was in use at different time periods. As well, the archaeological material has contributions to make to the general study of glass in the eighteenth and nineteenth centuries.

The collection includes most of the major forms made in glass -- bottles, jars, tableware, lamps and lamp chimneys, insulators, window and mirror glass, marbles, beads, and so on. Generally the glassware dates from 1700 to the present and

includes material made in France and other European countries, Great Britain, Canada, and the United States. The collection is enormous, estimated to consist of several million pieces.

Location. A limited selection of archaeological material has been used in on-site interpretive displays. The bulk of the glassware, however, is currently stored in Ottawa or in one of the five regional offices located in Calgary, Winnipeg, Cornwall, Quebec, and Halifax. The Fortress of Louisbourg material is stored in Louisbourg.

Accessibility. The collections themselves are not open to the public. Arrangements may be made on a limited basis for researchers and interested groups to see the collections. Permission will depend on the availability of staff time, the method of storage, the geographical location of the collection, and the nature of the enquiry.

Publications. Some site collections have been published, either as specialized glass studies or in archaeological site reports. The department has three different series which can be consulted for reports of this nature: the Manuscript Report Series is an internal, unedited report, copies of which are deposited in the Public Archives of Canada and in each of the provincial archives; History and Archaeology/Histoire et archéologie and Canadian Historic Sites: Occasional Papers in Archaeology and History/Lieux historiques canadiens: Cahiers d'archéologie et d'histoire are available in bookstores. Short articles on sites or on glassware found on sites may also be found in professional and popular journals.

Olive Jones

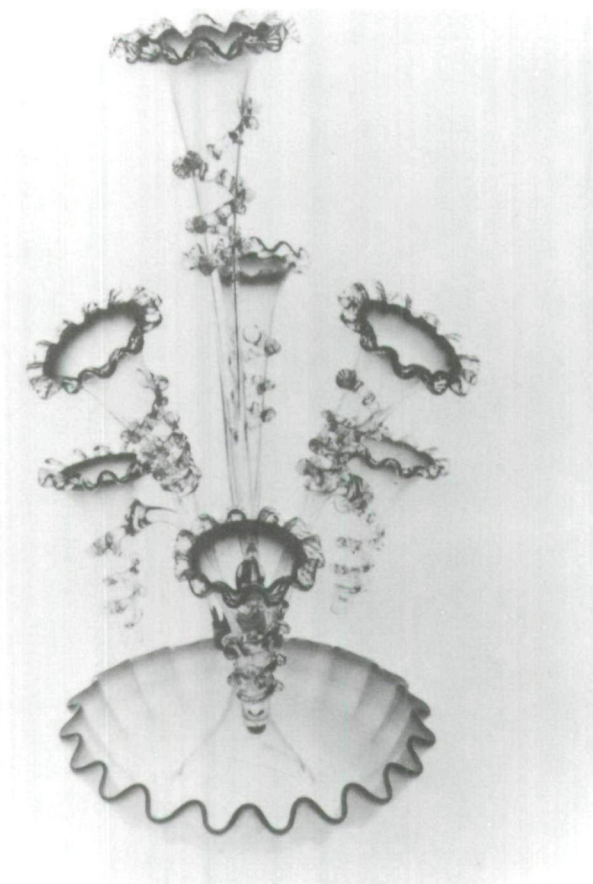
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Glenbow Museum

The collecting policy of the Glenbow Museum is addressed to collecting, preserving, and recording the history and material history of Western Canada. The nature of the glass collection, however, has been largely defined by the sum total of several large private collections acquired by the museum in the past. Not surprisingly it tends to reflect the archetypal collectable -- the paperweight, the bottle, the crystallo-ceramic, the Lalique figurine, the Steuben limited edition, and Victorian pressed glass tablewares. More recently, the scope of the glass collection has broadened to reflect a fuller range of interests and activities of the past.

Glassware made for utilitarian and ornamental purposes comes under the umbrella of the Cultural History Department. Glass sculpture and certain special collections are to be found in the Art Department. In terms of sheer numbers, pressed glass and mould-blown tablewares, performing the full range of food service, comprise the largest single category. These, along with related tablewares such as spooners, knife rests, and toothpick holders, date to the last quarter of the nineteenth century and the first quarter of the twentieth century. Stemware and related beverage servers such as decanters, steins, and soda syphons, are from the same period, with some notable exceptions. Stemware and such oddities as spirit drams and wine glass coolers include Georgian and Jacobite glassware of the eighteenth and early nineteenth centuries. Toiletries, ornamental items such as vases, lighting-related items, nursery articles, and hand grenade fire extinguishers are represented among the glasswares of Edwardian and late Victorian households.

The above-mentioned glassware has little relevance to Canadian glass production. With few exceptions, the tablewares largely hail from the glasshouses of the eastern United States. Canadian glass manufacturers have been identified in a few



Epergne (height ca. 57 cm),
ca. 1825-87, clear glass
shading to cranberry.
Maker not known. Cat.
no. H.65.55.12a-h. (Photo:
Glenbow Museum, neg. no.
P-1880-1.)

instances, notably a tazza by the Nova Scotia Glass Company, Trenton, Nova Scotia, and several tablewares attributed to the Jefferson Glass Company of Toronto. Not immediately relevant, perhaps, but interesting nonetheless are the pickle castor frames made by a number of Toronto and Montreal firms; their glass components have eluded documentation.

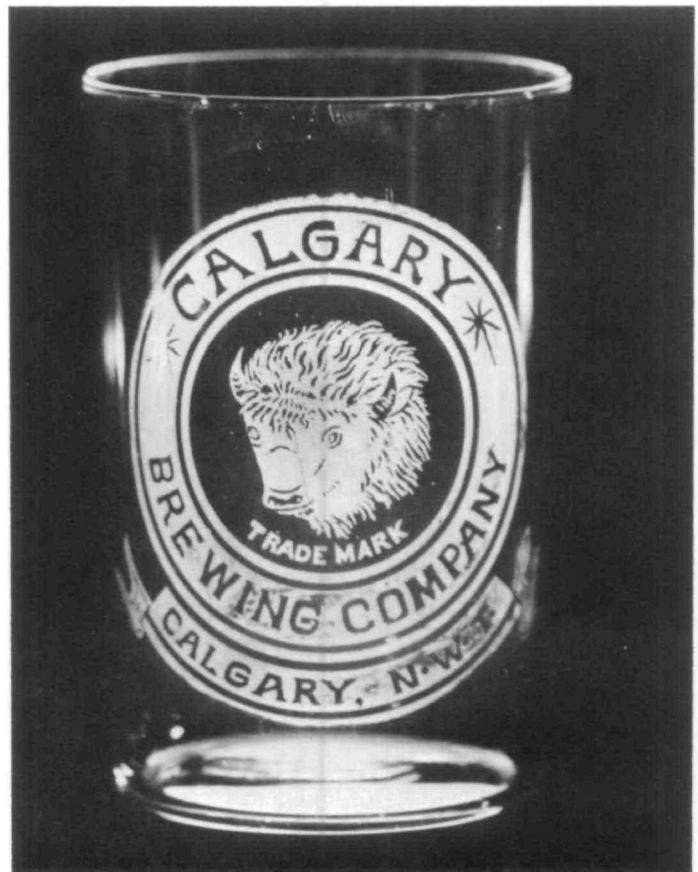
Food and beverage storage containers, including all manner of bottles and jars, represent a fair number of Canadian and Western Canadian breweries, dairies, soda and mineral water manufacturers, bottling companies and the like. In category size it is second only to the tablewares.

Commercial history is also expressed in the as yet light-weight category of advertising premiums. An example is a paper-weight promoting "A. MACDONALD & Co./WHOLESALE GROCERS/&/PORK



Pickle castor (height 29 cm). Frame is stamped "STANDARD SILVER CO. LTD./TORONTO/QUADRUPLE PLATE"; jar is clear pressed glass in Sprig pattern made by Bryce, Higbee & Company, Pittsburgh, Penn. (1879-ca.1900). Reputed to have been used on the C.P.R. transcontinental in 1886. Cat. no. H.65.5.60. (Photo: Glenbow Museum, neg. no. P-1883.)

Tumbler (height 9.2 cm), ca. 1895-1905. Despite the name appearing on the tumbler, the Calgary Brewing & Malting Company, Calgary, was founded and incorporated under that name in 1892. Cat. no. C-13308. (Photo: Glenbow Museum, neg. no. P-1882.)



PACKERS,/ MAIN St. WINNIPEG." Glassware with institutional affiliation is equally underrepresented; one example is a set of small, handmade plates bearing the provincial crest and the inscription "GOVERNMENT-HOUSE/ALBERTA." Souvenirs and mementos commemorating historic personalities and events include a number of royal souvenirs of coronations, jubilees, and tours. A more recent example is the engraved crystal sculpture, "Building a Nation." Commissioned in 1963 to commemorate Canada's Centennial, it was designed by James Houston and made by Steuben Glass craftsmen in Corning, New York.

Several other categories of glass can be singled out. A group of sulphides or crystallo-ceramic, moulded porcelaneous material embedded in a variety of articles such as decanters, seals, lamp bases, and paperweights, is believed to date from the early nineteenth century. Domestic, leaded, stained glass windows remain wholly undocumented as yet. The last grouping constitutes a large collection of lantern slides, many of which are hand-painted; topics range from scientific to religious, military to comic. Finally, while not glassware in its strictest sense, a "harmonica" or set of musical goblets in a mahogany cabinet bears mentioning. It is believed to date from the early nineteenth century.

It is encouraging to see how quickly research on glass in Canada is progressing, and the excitement generated from the work is catching. Thanks to the efforts of former Glenbow staff member Margaret Blair, a substantial amount of the collection has been documented, as far as possible, as to age and maker, but much of the basic groundwork remains to be done. I might end with an invitation to researchers in the field to visit the Cultural History Department to examine the glass collection in the hope that we may learn from one another.

Frances Roback

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A NOTE ON EIGHTEENTH-CENTURY LAND-SURVEYING EQUIPMENT AND SUPPLIES

Supplies requisitioned and used by Samuel Holland, first Surveyor-General of British North America, are an excellent source of information on the matériel of an eighteenth-century land-survey party. The data listed below are valid for a British survey team during the 1760s and 1770s and may be complemented by other British and French data in order to broaden the field of research.

Samuel Jan Holland was Surveyor-General not only of Quebec/Lower Canada from 1764 until his death in 1801 but also of the "Northern District" of British North America (all land north of the Potomac River) from 1764 until his expulsion from New Jersey in 1775. Like many of his fellow land surveyors, Holland was trained as a military engineer. One of several Dutch engineer officers recruited by the British about 1757 for service in North America, his technical training was second only to that available in France at the time. During the period 1764-68 his surveys covered Prince Edward Island, Cape Breton Island, the Magdalen Islands, the coast of Chaleur Bay, and the St. Lawrence River shores below Quebec. His survey parties ranged from twenty-five to thirty persons including himself, other army officers and civilians classed as surveyors (the "gentlemen"), several apprentice-surveyors who might include a senior N.C.O. (the "assistants"), and twelve to nineteen soldiers (the "privates") who performed menial duties.

Following his appointment as Surveyor-General in 1764, Holland estimated that, in order to survey "with exactness," he would need the following:

1. an astronomical quadrant;
2. a mecometer;
3. a theodolite, with a vertical arch and a telescope divided to every minute;
4. three pocket theodolites;
5. a large theodolite divided to every minute;
6. an azimuth compass;

7. a 12-inch round protractor with index and nones to every minute;
8. a Hadley's quadrant, 18-inch radius;
9. one telescope and rule;
10. Mr. Short's reflecting telescope, 24-inch focal length; Rockworth stand;
11. Skelton's clock or timepiece for astronomical observations;
12. a pair of globes, 17-inch;
13. a copying glass;
14. three brass fifty-foot chains;
15. stationery, wares and drawing paper.¹

Before the end of 1764 Holland's agent in London, Richard Cumberland, bought:

1. colours for map making;
2. brass letters;
3. a telescope (from Mr. Short);
4. stationery from Mr. Coles;
5. a regulator, from Mudge and Dutton;
6. a telescope from Mr. Dolland;
7. sundries from Mr. Heath.²

In 1765 Holland wrote to Cumberland that he needed, in addition to the foregoing:

1. three good plane tables, 16 inches in the clear, without the frame, made of the best and driest mahogany, with pieces let in across the grain of the wood to prevent shrinking with the weather;
2. a brass frame with screws to confine the paper, that no wind can get underneath it;
3. on the frame must be a scale of 4,000 feet to one inch, and one of miles in the same proportion, divided by diagonals into Gunter's chains;
4. a good well-divided compass of no less than 5 inches, the needle of which must draw out from beneath the plane table;
5. three exact parallel rulers of brass, the length of the diagonal of the instrument, with double sights;
6. a brass point in the centre of the Table, where the middle of the parallel ruler turns upon;
7. the legs must be the same as Heath's and Wing's improved theodolite shod with brass with steel points, the whole strong and firm;
8. three waxed linen covers to put upon the top when on duty, in going from station to station;
9. let the covers be put into strong boxes, with some divisions or drawers to put papers, pencils, etc. in, necessary for the business;
10. a magnet large enough to touch needles;

11. one of the best barometers divided for the measuring of mountains, with a nones if any are made on Monsieur de Lévi's principles. They would be the best. Two small ones to carry in the Plane Table Box, or in a case for the pocket;
12. one roll of the finest silver wire;
13. a treatise of the Barometer, to be got at Mr. Paul Vaillant, Bookseller, intituled, "Traité sur les baromètres et l'atmosphère" par Monsieur T.A. de Lac, Citoyen de Genève;
14. six pairs of green glass spectacles;
15. six dozen of the best black lead pencils, of different sizes;
16. one of Dolland's three-inch telescopes which draws out in two pieces, with a leather cover and sling;
17. one pocket telescope;
18. twelve quires large drawing paper, 40 inches long by $26\frac{1}{2}$ inches broad;
19. ten quires writing paper;
20. ten quires plain table paper;
21. ten quires foolscap;
22. eight quires gilt letter;
23. ten quires small gilt letter;
24. twelve quires covering gilt letter;
25. twelve quires blue covering gilt letter.

Holland specified that the paper was to be the best obtainable from Mr. Cole's stationery warehouse in Fleet Street near Temple Bar.³ Writing later the same year, Holland asked Cumberland to send two more Hadley's quadrants of the same construction as those by Heath and Wing, except that he would have no objection to a larger radius in order to observe the latitude to one-half or one-quarter minute.⁴

In 1766 Holland complained of not having received the paper, of having received some things from the instrument makers that he had not ordered, and of having discovered that "Bird's quadrant" was neither the size nor of the construction agreed upon and much inferior to Hadley's in service, composition, and expense. There was so much wear and tear on his equipment, he said, that it was fortunate that there was an instrument maker in the party to carry out repair work. He asked for clothing, tents, kettles, boats, and hatchets for his party, the tents to be appropriately labelled as the property of the Board of Trade and Plantations.⁵ He placed a long order with Cumberland to purchase the following for the "gentlemen":

1. 40 yards superfine green broadcloth;
2. 50 yards superfine green shalloon;
3. 40 dozen double gilt newfashioned coat buttons;
4. 30 dozen double gilt waistcoat buttons;
5. 50 slips silk twist;
6. 40 slips sowing silk;
7. 10 yards buckram;
8. 30 pennyworth stay tape;
9. 10 pairs gold knee garters;
10. 40 yards white fustian;
11. 20 shammy skins;
12. 10 yards glazed linen;
13. 20 ounces green thread;
14. 10 yards green Genoa velvet;
15. 60 pairs neat shoes, double-channelled pumps, as follows: 6 pairs of nines, six pairs of fours, and sevens and eights;
16. 210 yards narrow gold lace;
17. 6 hats, newest fashion, with gold loop, band and buttons.

For the "assistants" Cumberland was to obtain:

1. 10½ yards green broadcloth;
2. 12 dozen double gilt buttons;
3. 9 dozen waistcoat buttons;
4. 6¾ yards green hair plush;
5. 31 yards narrow gold lace;
6. 13 yards green velvet;
7. 3 pairs gold knee garters;
8. 3 hats, newest fashion.

And for the "privates" he was asked to order:

1. 70 yards green broadcloth;
2. 80 dozen single gilt coat buttons;
3. 60 dozen waistcoat buttons;
4. 115 slips of silk twist;
5. 92 slips of sowing silk [sic];
6. 46 ounces of green thread;
7. 23 yards of buckram;
8. 63 pennyworth stay tape;
9. 33 yards white fustian;
10. 51¾ yards green hair plush;
11. 46 shammy skins;
12. 12 dozen men's shoes, different sizes, none small;
13. 241 yards Irish linen;
14. 242 yards of the same at a higher price;
15. 138 pairs of worsted hose of different colours;
16. 30 leather caps with the emblem of the Board of Trade embossed in front on brass, gilt;
17. three plain silver watches, showing seconds;
18. six drawing instrument cases;
19. 12 unclasped best penknives;

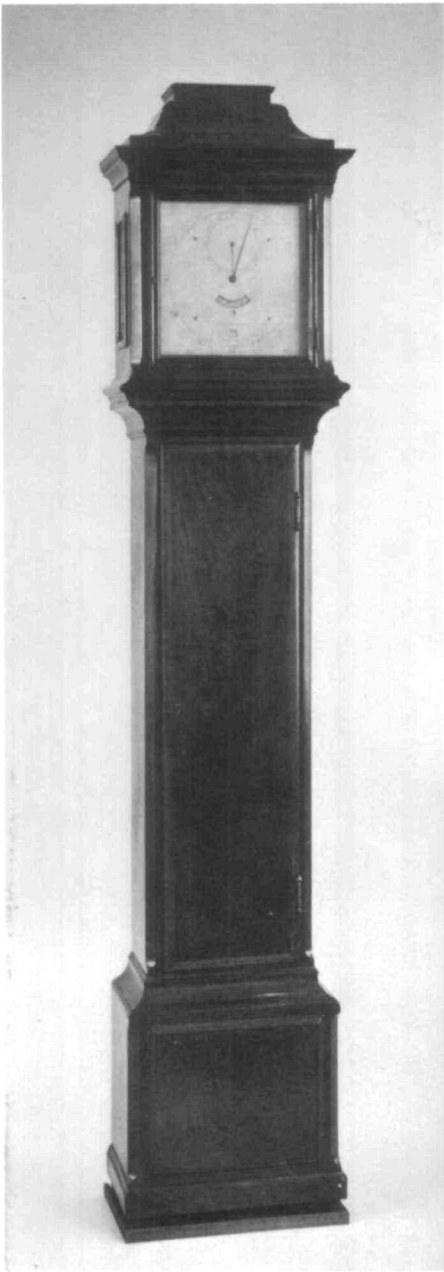


Fig. 1. Astronomical clock (height 198.1 cm) made by George Graham, London, England. Collection: National Museum of Man, cat. no. D-5579. (Photo: National Museums of Canada, neg. no. 78-5571.)

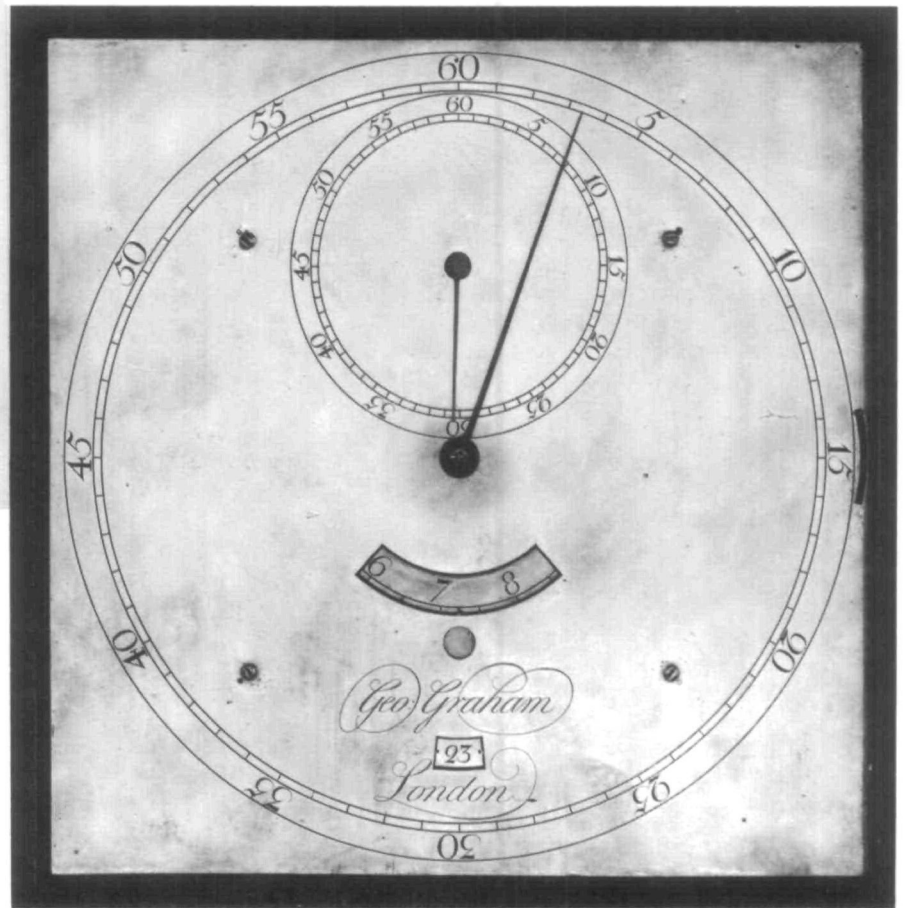


Fig. 2. Face of clock (detail of fig. 1).

20. 10 fifty-iron chains;
21. two Gunter's iron chains;
22. Hull's new invented instrument for detecting frauds in gold;
23. 60 yards swan skin or flannel.⁶

Holland's end-of-year account claimed for camp kettles, a large copper kettle for making spruce beer, paper and stationery from Halifax to tide him over, and boards, nails, etc. for making a drawing table and for building an observatory.⁷

In a memorandum of 20 April 1767 to the authorities in London, Holland lists the most important of the instruments used in his surveys:

1. A monthly astronomical clock or timepiece with a compounded pendulum, and a spring to keep it going when the clock is wound up; made by the late Mr. George Graham [see figs. 1 and 2].
2. An astronomical quadrant, or equal altitude instrument of 2 feet radius, divided by Mr. Sissons and improved with an horizontal circle and stand; by Heath and Wing.
3. A two-foot Gregorian reflecting telescope; made by Mr. Short.
4. A ten-foot refracting telescope, reversing the objects; made by Mr. Dolland.

Regarding the Graham astronomical clock, Holland explains more fully:

In building the winter habitation on St. John's Island [Prince Edward Island], I constructed a strong stone chimney, to the back of which I secured the clock with the greatest precaution, and the room was kept temperate by an iron stove. In a few days the clock was regulated to mean or equal time; and always examined and compared by equal altitudes of the sun and stars, at or near the time when any immersions or emersions were to be observed. As the going of this clock is not inferior to any made by that renowned artist Mr. Graham, it will not be necessary to insert here a multitude of equal altitudes, and other observations to prove the exactness of this clock, but only mention that I have made use of Monsieur de la Lande's Tables to rectify the equal altitudes of the sun, for the alteration of

the sun's declination, during the time of observation.⁸

The end-of-year accounts from 1768 to 1775⁹ provide further information about the material preoccupations of Holland's survey parties. Funds were spent on snowshoes, fuel (coal or wood), stationery, isinglass, repair materials for instruments, colours for maps, wood for building tables, grapins or corks for men's shoes against the ice, ink, powder, quills,¹⁰ thread for tents, glue, oil and borax for the instruments, alum, "iron dogs," candlesticks, bellows, bookshelves, a compass box, solder, glass for a plane table, brass for instrument repairs, a stand for a quadrant, a nautical almanac, Connaissance des temps, a box for completed plans, twine for altering tents and sails, new bottoms for camp kettles, an iron pot, nails for repairing a canoe, a tin fender and fireplate for the office, axes, nails and screws for instrument boxes, nails and brads for boats, cod lines and hooks, an achromatic telescope by Dolland, leather straps for plane-table boxes, window glass, a padlock and staples for a boat, an anchor, lampblack, an ironbound cask for a quadrant stand, a hammer, tacks, flint and stones, and one pound of fine emery.

Armed with the foregoing museum curators should be well enough informed, within reason, to draw up an inventory for a mid to late-eighteenth-century survey party. (Acquiring all the necessary artifacts for an exhibition would be more difficult.) As for earlier and later periods researchers may consider these notes to be an introduction to the problem and to look for comparable sources in the accounts of surveys conducted in other areas and at other times, particularly as new lands were being opened up to settlement and development.

NOTES

1. D.C. Harvey, ed., Holland's Description of Cape Breton Island... (Halifax: Public Archives of Nova Scotia, 1935), pp.35-38, taken from Public Record Office (P.R.O.), London: Audit Office (A.O.) 3, vol. 140.

2. P.R.O., A.O.3, vol. 140/6: transcript in the Public Archives of Canada (P.A.C.) MG 14/3, pp.63-64. "Mr. Heath" was of Heath and Wing, London instrument makers.
3. P.A.C., MG 24, K2, vol. 6, pp.69-70.
4. Ibid., pp.215-16.
5. Ibid., pp.224-32.
6. Ibid., pp.232-34.
7. Harvey, Holland's Description, p.56.
8. Ibid., p.50. Holland refers to the first edition of Joseph-Jérôme Lefrançois de la Lande, Traité de l'Astronomie, 2 vols. (Paris: n.p., 1764), article 637, p.279.
9. In P.R.O., A.O.3, vol. 140 (P.A.C. transcript MG 14/3, pp.31-60). During this period Holland worked chiefly in what became the United States.
10. The account for 1775 (ibid., pp.57-60) claims for 1,000 Dutch quills and 3,000 crowquills!

F.J. Thorpe

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The Mercury Series of the National Museum of Man, National Museums of Canada, is designed for the rapid publication of material pertaining to the work of the History Division (and of other divisions within the museum: Archaeological Survey of Canada, Canadian Ethnology Service, Canadian Centre for Folk Culture Studies, Canadian War Museum). Volumes published since mid 1976 are available free of charge upon request from the appropriate division. Earlier volumes can be ordered, on receipt of a cheque made payable to the Receiver General for Canada, from Mail Order, National Museums of Canada, Ottawa, Ontario, K1A 0M8. To date History Division Mercury Series consists of the titles listed below.

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the West: Papers of the Western Canada Urban History
Conference - University of Winnipeg, October 1974.
1975. \$3.75

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REPLY TO "GLASS IN CANADA: AN ANNOTATED BIBLIOGRAPHY"

I was most disturbed to read the review of my 1968-69 published material which appeared in "Glass in Canada: An Annotated Bibliography" (Material History Bulletin no. 6, pp.115-48) by Janet Holmes and Olive Jones. I am especially grieved to have to question the reviewers' comments on the matter of the production of sherds at the Burlington Glass Works and on the production technique for "Coin spot" and "Lattice" opalescent glass.

In reviewing my published materials, the co-authors have added a cautionary note:

There are enough unknown factors in the company's history, however, that the presence of these sherds on the site does not guarantee production by the Burlington Glass Works. (p.139)

This caveat is made concerning the fourteen patterns of pressed and blown tablewares which I identified through sherds recovered from the site in 1967 and reported in the Canadian Antiques Collector from April 1968 to January 1969. Those patterns are as follows: Deer and Dog, Pleat and Panel, Garfield Drape, Graduated Diamond, Beaded Flange, Chain with Star, Anderson, Gesner Lamp, Frosted Butterfly Lamp, Westward Ho!, Boling (lamps), Coindot (Coinspot), Lattice, and Ribbed Forget-Me-Not.

In The Book of Canadian Antiques (Toronto: McGraw-Hill Ryerson, 1974) edited by Donald Blake Webster, Curator of the Canadiana Gallery, Royal Ontario Museum, Holmes' chapter, "Glass and the Glass Industry," included a list of pressed and blown tablewares produced by the Burlington Glass Works and identified from sherds found on the site (p.278). Amongst the many patterns listed by Holmes are all of the fourteen patterns which I published in the Canadian Antiques Collector in 1968-69, as well as approximately seventy additional patterns which were identified by me in assessing the materials recovered during the 1969 excavation of the site. Also included in the foregoing list are patterns attributed to the factory by Gerald Stevens and a few which relate to pieces of glass donated to the Royal Ontario Museum by a relative of William Godkin Beach (a one-time manager of the Works).

In their annotated bibliography Holmes and Jones assess the Holmes chapter as "a good basic survey of the Canadian Glass Industry up to ca. 1925." There is no caveat as was attached to the review of my Canadian Antiques Collector material, although all my attributions were included in the Holmes material.

To be consistent the reviewers, if they insist in dismissing my attributions on the basis of sherds recovered from the Burlington site, should have added their cautionary note to the Holmes material and the Gerald Stevens Burlington material and should even have questioned the MacLaren reports and the attributions which were made therein to the Nova Scotia Glass Company (which attributions were also based on materials recovered from the site).

In assessing the article I wrote in the November 1968 issue of the Canadian Antiques Collector the reviewers said:

A careful attempt is made on the basis of the two fragments found to explain the production technique for "Coin spot" and "Lattice" opalescent glass. However, this type of glass belongs to the heat-sensitive formula glass, using bone ash and arsenic,

made as commercial ware from the mid 1880s on. The method of production, simpler than that described in this article, is discussed in A.C. Revi, Nineteenth Century Glass, Its Genesis and Development (New York: Nelson, 1959), chapter "Shaded Opalescent Glassware." Sheeler cites the book but not the correct chapter. (p.140)

My suggested method of the technique employed in the making of Coin spot and Lattice was arrived at after careful examination of the two sherds in question (which have been on public display in the Canadiana Gallery of the Royal Ontario Museum for the past ten years).

At the time I wrote the article I read Revi's chapter on "Shaded Opalescent Glassware" and rejected it because this technique relies on coating the entire outer surface of the article produced with the "heat-sensitive" glass. This method relied on rapidly cooling and then reheating exterior ribs or bosses (hobnails, etc.) to achieve the opalescent effect. A close examination of finished articles worked in this way will disclose that the "shaded opalescence" is rather difficult to control -- and the article has to have a heavy intaglio design on its surface so that the raised parts of the design will react to the reheating to produce the opalescent effect.

In view of the fact that Coin spot and Lattice have smooth outer surfaces and inward protrusions where the opal glass is found, one would have to assume that, if the "heat-sensitive" method had been used in the production, the whole body of the piece would be opalescent and that the protrubances would have to be located on the outside of the article. This is not the case.

I referred to Revi's chapter "Patte de Verre" simply to indicated the use of glass paste as the possible technique used in making these two wares.

Long after my November 1968 article was written, I came across U.S. Patent #398,995 issued 5 March 1889 to Thomas B.

Atterbury of Pittsburgh, Pa. Atterbury's patent specified that the gather of hot glass be rolled over a marver which had been specially prepared with indentations which had been filled with pulverized glass or enamel (patte de verre?). The molten gather picked up the pulverized glass from the marver and was then reheated to fuse the gather and the "pulverized" glass together. (When blown in a mould, one can readily appreciate that the portions of the pattern made by the incorporation of the pulverized glass on the outside of the gather would result in raised protruberances on the inside of the article which would correspond directly to the pattern of the pulverized glass picked up from the marver by the hot gather.) The patent was illustrated with a floral design and suggested that this same method could be used to form all manner of bands, stripes, letters, etc., "and all manner of decorations could be readily and cheaply applied to glassware of any kind."

Four years have now passed since I turned over the report on the 1969 excavation on the Burlington Glass Works to the Canadiana Department, Royal Ontario Museum. In light of what has happened, the time has surely come to publish the report so that the public can judge the issue of the tablewares which the factory produced.

John Sheeler