- The Magic Lantern -
Background

The late 1920s and early 1930s…
Wilfrid Bovey, then director of McGill
University’s Department of Extramural
Relations, provided the public with
access to a set of illustrated lectures on
various subjects. The lecture kits, which
were mailed out to interested institutions
or groups, were made up of lecture
booklets accompanied by glass slides for
magic lanterns.

The McCord Museum owns 15 of these
booklets (which deal with the history
and geography of Canada and its
provinces) along with some 1,250 glass
slides that accompanied them. This is
your chance to learn more about them!

• What is so magical about the
magic lantern? And what is a
lantern slide?

Origin and Technical
Description

• A magic lantern cabinet at the
McCord?

Provenance and Description

• McGill’s illustrated lectures:
when, for whom and for what
purpose?

Uses of the Magic Lantern

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Origin and Technical Description

The Magic Lantern

The origin of the magic lantern is shrouded in mystery and its early use is the subject of controversy and debate. The magic lantern is thought to have been used by the ancient Egyptians, and again much later as an aid in medieval sorcery and black magic. The writings of Roger Bacon suggest that it was used for this purpose in 13th century England.

When he visited Rome around 1525, Benvenuto Cellini witnessed a secret ceremony in which a form of magic lantern may have been used to create images of demons on clouds of smoke that terrified the viewers. No illustration or accurate description of a magic lantern is known to exist prior to 1646, when *Ars Magnas Lucis et Umbrae* (The Great Art of Light and Shadow), a book by Athanasius Kircher (a German priest living in Rome), was published. Just a few years later (in the mid-1660s), Thomas Walgensten, a Danish teacher, had traveled through Europe giving magic lantern shows to royalty.

Commercial Exploitation

This novel instrument was ripe for commercial exploitation and was soon taken up by travelling showmen, who toured Europe presenting crude entertainments at country fairs.

In the 18th century—with the exception of some serious scientific experiments by the Dutchman, Johannes Zahn—the magic lantern was looked upon as a mere toy suitable for the amusement of children. Beginning in the early 19th century, when the stimulus of the Industrial Revolution spurred the invention of ever more brilliant illuminating apparatuses, the magic lantern became immensely popular. The magic lantern show was looked upon as a medium of entertainment and amusement, as well as a vehicle for bringing information to audiences. By mid-century, successful projectionists would, through popular demand, present current events, exploration, travel, natural history and astronomy, as well as the usual comic and novelty slides.

The manufacture of lantern slides provided many aspiring artists with steady employment when sales of their own work were insufficient to keep bread on the table. Seated in workshops lit by natural light, artists would turn out hundreds of miniature paintings on glass slides. When a manufacturer required large quantities of the same scene,

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2 Dissolving Views using a biunial Magic Lantern to achieve dramatic special effects
several artists would produce their own slightly different versions. They used a transparent varnish made from the pitch of Canada balsam trees, mixed with crushed minerals of different colours.

The Introduction of Realistic Photographic Slides

The use of magic lanterns broadened with the introduction of realistic photographic slides. The first photographic slides were made in 1849 in Philadelphia by the Langenheim brothers. Prior to that date, there were no effective means of producing a photograph on glass. Consequently, images on magic lantern slides were painted by hand. The new photographic method created a revolution in the magic lantern manufacturing industry. Exact renditions of cities, landscapes, paintings or sculptures could now be duplicated by the thousands in a shorter time, and at a lower cost than was previously possible. The magic lantern was now looked upon much more seriously as an educational tool and as a medium of informal instruction.

The magic lantern continued to be used in the home and at school after the “movies” replaced it as public entertainment. The ready availability of inexpensive 35 mm colour film after the Second World War finally caused the demise of the magic lantern. The projected world is now at another turning point: the colour film slide versus the digital projected image. Any image that can be recorded in a digital file can be projected, and special effects can be added with the click of a mouse…

The Development of the Magic Lantern

The forerunner of the magic lantern and, later, of the camera, was an ancient instrument known by the Latin name, *camera obscura* (dark chamber). This was first described in the 10th century by Alhazen, an Arab mathematician, who used it to observe solar eclipses. In its simplest form, the camera obscura is a light-tight box with a pinhole in one side through which daylight is directed. When the pinhole is pointed at a given subject, the image of the subject is projected into the box, where it is clearly visible on the opposite wall, although upside-down. The early instruments were big enough to walk into. Later, however, the image could easily be seen from outside the box, on the surface of a ground glass placed in the side opposite the pinhole. The camera obscura could then be made considerably smaller, and became portable.

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3 Glass plates, Wm Notman & Son, *Fishing Fleet, Lunenburg, NS*, about 1925 (MP-0000.25.40), *Fishing Fleet, Lunenburg, NS*, about 1925 (MP-0000.25.41), McCord Museum of Canadian History Collection.
The magic lantern is essentially a camera obscura in reverse; the light source (a flame or light bulb) and the subject to be viewed (a lantern slide) are inside the box and the image is projected outside to a screen for viewing.

Light Sources

Several different fuels were used to generate the light needed to project images from magic lanterns. Among these were animal and vegetable oils, lime and kerosene (coal oil). Eventually, electrical energy was used.

Oil Lamp

Until the early 19th century, the only illuminants used in magic lanterns were oils of vegetable or animal origin. Although many kinds were used, only rapeseed oil and whale oil had wide distribution. Because of the relative dimness of oil light, the magic lantern of this early period had to be used in a small room.

Lime Light

In 1826, Goldsworthy Gurney of England demonstrated that a small cylinder of lime (calcium oxide) would, when heated by a pressurized stream of oxy-hydrogen, emit an intense light. Shortly afterward, this system for producing artificial light was utilized in magic lanterns as well as in theatres and public buildings. Lime light, the most

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brilliant of artificial illuminants until the invention of electric light, was considered dangerous since the hydrogen tank occasionally exploded in the middle of a presentation.

**Kerosene Oil (coal oil)**

Although experiments with distillates of petroleum for illumination had begun as early as 1847, the first successful magic lantern fitted with a kerosene burning lamp was not marketed until about 1870. The instrument employed a double wick burner and its inventor, Professor L. J. Marcy of Philadelphia, called it the Sciopticon magic lantern.

Because the kerosene lamp gave a less brilliant light than lime light, it was not as suitable for shows held in large halls, but its convenience, cheapness and, above all, safety made it the favourite choice for the home and classroom.

**Electric Light**

The first electric light to be used in the magic lantern was the carbon-arc lamp. Another up-and-coming possibility was the use of electricity to produce light. Carbon-arc lights were already in use to illuminate city streets at night, and the same method was used as a light source in lanterns. The light is produced by connecting the positive and negative leads from a direct current source of electricity to two carbon rods, each with pointed tips held in proximity to each other. At a set distance, the electrical charge leaps from one tip to the other, producing a brilliant arc similar to the lightning produced in thunder-storms, a large amount of ultraviolet radiation, and a hissing noise. As the junction between the rods was not enclosed, the rods would gradually be consumed by corrosion. At first...
The light emanated from an electric spark crossing between two carbon rods. This lamp became popular in the 1890s but it and the later incandescent light bulb did not replace the lime light or kerosene until the widespread installation of electricity. Even in the 1940s, at the end of the magic lantern era, lecturers in remote communities would employ the kerosene lamp.

**Lantern Slides**

The slide used with the magic lantern consisted of a “positive” image (an image whose tonal values corresponded with those of the subject) on a glass plate.

**Painted Slides**

The earliest form of slides designed to be projected were miniature paintings on glass. Although this sounds as if it could make an ideal cottage industry, the paintings on glass had to be extremely accurate, as every defect in the painting was very noticeable when enlarged on screen. These slides were usually circular pieces of glass set into a wood frame (often mahogany), and had a diameter of about 3 ¼ inches. They were quite expensive to produce and are very impressive as tiny works of art. Sizes of 3 ¼ by 3 ¼ in Europe and 3 ¼ x 4 in North America gradually became standard.

**Lithograph /Decal Slides**

Many of the early slides were lithographed decals applied to glass, often in strips 13” to 14” long (33 to 35.5 cm) consisting of a sequence of images which could be pushed through the stage area of the lantern to reveal the next picture. This cheap method of mass-producing lantern slide was introduced in Germany, about 1875, and the subject matter was often children’s fairy or cautionary tales. The long slides were often set in a wooden frame or had paper-bound edges. They were sold in long wooden boxes as a set. Instructions were published on how to make projectable slides from illustrations in books by applying the cut-out image to a piece of glass using various sticky products.
As the lanterns became more sophisticated, individual slides became more common. The slide stage was modified to accept a double slide holder rested in the slide stage. One slide could be inserted in one half of the holder as the other half was being projected, then the holder was pushed through to reveal the new slide and the previous slide removed. Individual slides consisted of a image-bearing piece of glass, a cover glass and a binding tape around the edges to hold the two together; often a paper mask was inserted between the two on which identification information could be written.

Photographic Slides

With the advent of photography and in particular, images on a transparent base, cheap accurate lantern slides could be produced. In the wet plate era before about 1880, the negative was produced normally but the printing of it onto another “negative” to produce a transparent positive was complicated by the fact that the “negative” was wet with chemicals. Various methods were used to overcome this unavoidable problem. Contact (same size) positive prints on glass could be made by inserting a paper or cardboard separator between the negative and the positive. Another method involved reduction; the negative would be made in the standard 6 ½ by 8 ½ size and, with the use of a copy camera, the positive would be a reduced print on glass from the negative. An alternative source for fast easy lantern slides were the double-image negatives used to print stereograph cards. When cut in half, they were just the right size to be bound as lantern slides.

Dry plate technology rendered the process even simpler. Sensitized plates could be bought in light-tight boxes, and negatives taken of scenes or copies of images from books. The batch of negatives was developed and dried, then graded according to density so that printing those of similar density could be accomplished in a batch with the same exposure. A contact printer was used, producing a same-size glass positive on similar sensitized “negative” plates. These were developed and dried, fitted with a cover glass and bound with tape on the edges. Some were tinted with transparent inks before the cover glass was applied, and often paper masks were inserted between the plates with the name of the subject or the producer. These dry plate slides were easy to generate in vast quantities, and slide sets on specific subjects could be bought from commercial suppliers.

The tinted slides are especially striking. Although the colors, especially the greens, are not always realistic, they are often vibrant and give the viewer a sense of life often lacking in the black and white photographs of the same era. There are comparatively few images of

11 Photograph, Wm Notman & Son, H.M.S. Garnet, cleared for action, Quebec City, Qc., Ca. 1884, N-0000.25.1076, McCord Museum of Canadian History Collection.
people in the tinted photographs, and one can see why when looking at them. Too often the artist has missed the outlines, and this doesn’t always do the image justice. Tinted lantern slides seem more suited to the vast expanses of the prairie, or the vistas of the Rocky Mountains. The choice of colour itself is often interesting. Some colour choices made by the artists were better than others.

Special Effects Slides - Details

**Slip Slides:** These consisted of two pieces of glass, one fixed and the other sliding, mounted together in a wooden frame. The moving slide, bearing blacked-out areas, would cover or uncover portions of the stationary slide, showing, for example, a ship followed by a burning ship.

**Lever Slides:** These consisted of a fixed slide and a circular moving slide which was brass-bound with a projecting lever. A partial image was painted on the fixed slide, and the missing portions were painted on the rotating slide. Both, again, were mounted together in a wooden frame. The lever, when moved up and down, rotated the circular glass and portions of the image would move. For example, a horse might raise and lower its head and neck to drink from a stream.

**Revolving Slides:** These consisted of two circular slides, one fixed and the other rotating. The rotating slide was driven by various means, such as gears, a rack and pinion, string belts and cranks. Again, the fixed slide would bear part of an image while the rotating slide bore the rest of it—for example, a water-powered mill with a rotating water wheel, or a sleeping man and a mouse on a bed.

**Chromatropes:** a variation on the revolving slide. In this case the images on the fixed and moving slides were spirals or zigzag patterns, which, when rotated against each other, produced moiré patterns and interference wave patterns. When projected, the effects

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12 Glass plate, Alexander Ross, Lord Strathcona driving the last spike, C.P.P., Craigellachie, BC, 1885, MP-0000.25.971, McCord Museum of Canadian History Collection.

13 Lever slide, McCord Museum of Canadian History Collection.

14 Revolving slide, McCord Museum of Canadian History Collection.
could be quite mesmerizing. These kinds of slides also existed in the long strip form, framed in wood.

Specialized Slides

For scientific lectures, it was possible to project actual experiments on screen. The slides were small flat tanks in which chemicals could be combined or small aquatic animals could be confined. Needless to say, the time of projection had to be very short or the animals would dry up and die. Recalling the origins of projection, some slides had an open hole in the centre of which a brass sheet-metal flexible-jointed figure was suspended to provide a silhouette on screen. This figure could be moved with a crank. Some slides relied on the phenomenon of persistence of motion and were the ancestors of the moving picture and the world of cinema.

15 Chromatrope, McCord Museum of Canadian History Collection
Provenance and Description

This display cabinet for magic lantern slides comes from McGill University, and was acquired in the late 1960s. A sign of the times, the projection equipment, which had been hidden away for more than twenty years, has found its natural place within the context of a museum collection. It came with some 1,250 glass slides, several hundred glass negatives stored mainly in small cardboard boxes, material for making glass plates, and 15 lecture-program booklets.

Although recent studies make it possible to determine how and why these glass slides were produced (they were originally used in conjunction with a magic lantern to illustrate lectures offered by McGill University), we are less certain as to the exact contents of the cabinet at the time of its acquisition by the McCord Museum. This is due, in large measure, to successive reorganizations of the initial collection over the last 30 years, in order to reflect the Museum’s mandate to feature Canadian content. Also, because there was no precise list at the time of acquisition, we cannot, unfortunately, reconstruct the contents with any great degree of certainty.

The Cabinet

The cabinet is an oak case made specifically to hold negative glass slides. The manufacturer was the firm of G. S. Moler of Ithaca (New York), which produced the unit at the beginning of the 20th century. Rather large (127 x 96 x 36 cm), the cabinet comprises 19 sliding compartments, each of which can hold 60 glass plates. The cabinet was designed in such a way that one could quickly scan the slides by pulling out one of the 19 compartments. Two drawers located at the bottom of the unit made it possible to store other glass plates (slides or negatives) in cardboard cases, along with material for making and repairing plates, and booklets used for giving courses or lectures.

The Accompanying Booklets

According to a list discovered in the McGill University Archives, in 1935 the Department of Extramural Relations offered some fifty illustrated lectures grouped into five series of varying importance. These were: Geography and Travel, History, Science, Natural History and Religion. Fifteen of the supporting booklets, on exclusively Canadian topics, are currently in the McCord Museum.
In English only, these booklets contain indexes on the subjects covered, the content of the presentation itself and descriptive notes pertaining to the supporting slides. The booklets produced by the Canadian government also contain appendices of texts written by politicians of the period, who represented the government departments involved. Although the booklets are undated, there are many references that make it possible to determine the approximate times at which they were produced. It is safe to presume that these texts were written in the first quarter of the 20th century.

The period covered runs from 1870 to 1930, and the subjects dealt with mainly concern the development of Canada. Individual slides were not restricted to one lecture, and it is fairly common to find several reference numbers on the same one.

Unlike the majority of magic lantern images used, these photographs are originals. In other words, they are not reproductions of already-published images. However, numerous slides come from series published by various government agencies or private companies. This collection contains slides produced by the Ontario government, the public education department of the American Museum of Natural History, and even the French firm of J. Lévy.

The Lantern Slides

The cabinet contains approximately 1,250 positive glass plates (slides) produced by various procedures, but mainly by gelatin on glass and wet-collodion processes. With the exception of the slides originating in France, the majority of the slides are close in size, either 8.2 x 8.2 cm or 8.2 x 10.1 cm. A good many of the slides have been painted, or touched up in various transparent inks. Many of them are also enclosed within paper masks.

The paper mask also had a functional purpose, and seems to have increasingly so as time went on. It could hide unwanted portions of the image and, early on, it was used to cover the other portion of the stereo pair. It could also be used to hide distracting titles and numbers, and to mask clear areas where there was no image.

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17 McGill Lectures booklets, McCord Museum of Canadian History Collection.
18 Paper Mask: In the earliest instances, the paper mask was often used for aesthetic purposes. Very often a collodion photograph had a small round mask, vignetting a small central area of a rectangular image that covered almost the entire 8.1 x 10.1 cm surface. The paper mask also had a functional purpose, and seems to have increasingly so as time went on. It could hide unwanted portions of the image and, early on, it was used to cover the other portion of the stereo pair. It could also be used to hide distracting titles and numbers, and to mask clear areas where there was no image.
19 Lantern slide, Logs being transported by the Comox & Campbell Lake Tramway Co., Vancouver Island, BC, Ca., 1925, MP-0000.25.885, McCord Museum of Canadian History Collection.
Uses of the Magic Lantern

The Early Days at McGill

McGill University and the museums affiliated with it have put together major collections of photographs on glass, some of which date most likely from the 1870s and 1880s. However, the use of magic lantern projections in certain McGill lecture programs probably did not become frequent or systematic until the 1890s. The improvement of electrical facilities on the university premises undoubtedly had something to do with this development. The light sources used in magic lanterns up to that point, mainly kerosene and lime light, were not well suited for projections in large lecture halls; moreover, they could be difficult or even dangerous to handle.

Not only was the magic lantern slow to catch on at McGill, but it was also used more in some disciplines than in others. At the turn of the 20th century, it was associated mainly with the teaching of medicine and the natural sciences. One pioneer in this area was Frank Dawson Adams (1859-1942), who, in 1896, promised his new students that they would have courses “accompanied by magic lantern projections.” Adams began teaching at McGill in 1889. He appears to have maintained his belief in the importance of this pedagogical tool throughout his teaching career, which ended in 1924. During the intervening years, he collected (or made) several hundred glass photographs for his courses in geology and palaeontology.

The Medical Faculty’s Use of the Magic Lantern

In 1898, the Department of Medicine announced that it was offering a series of night courses “with lantern projections.”

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20 Composite photograph, William Notman, McGill University, Montreal, QC, 1871, I-63563, McCord Museum of Canadian History Collection.
22 McGill University Calendar for the Session 1896-1897 (Montreal: Lovell & Son, 1896).
23 David Rowe, “Inventory of Accession 1217” (Graduate School of Library Science: McGill University, April 1979). McGill University Archives, R.G. 11, c.21, access no. 1217.
24 Photograph, Wm. Notman & Son, Dr. F. Adams, Montreal, QC, 1922, II-173978, McCord Museum of Canadian History Collection.
as part of a professional development program for general practitioners. Three years later, McGill’s new Hygiene Museum gave the university access to a recently acquired collection of some 1,000 magic lantern plates that could be used to illustrate “the different phases of hygiene.”

In the ensuing years, teachers in a number of medical disciplines followed suit, and the magic lantern began to be used in applied sciences courses as well. Photographs on glass, like those on paper, also made it possible to relate—and, at the same time, demonstrate—scientific discoveries. For example, some of those found in the Adams collection recount the efforts and discoveries made during palaeontology expeditions carried out in the Canadian Rockies during World War I. Easily transportable by mail or other means, they also represented a way of building up or completing collections of specimens, and fostered information sharing among individual researchers and institutions (universities, hospitals, museums, etc.). The projection of these photographs via the magic lantern to teach doctors, geologists (and, later, nurses) was, of course, an extension of this type of information sharing. In actual fact, in an institution such as McGill, all these developments were concurrent.

The correspondence between Dr. William Osler (1849-1919) and his

28 Photograph, Notman & Sandham, Dr. William Osler, Montreal, QC, 1881, II-62556, McCord Museum of Canadian History Collection.

29 Dr. William Osler (1849-1919): An internationally renowned clinician, Osler was probably the finest jewel in McGill’s Faculty of Medicine. He obtained his degree in 1872 and went back to teach there in 1874, the same year in which he was appointed doctor and pathologist at the Montreal General Hospital. This made him the youngest professor to join the Faculty of Medicine and the first who earned his living teaching—as opposed to in private practice. It must also be pointed out that, from then on, Osler gained a reputation as a reformer—on the one hand, for his insistence that his students apply scientific rules in making diagnoses and deciding on treatment options; and, on the other hand, for the struggle he waged against traditional teaching methods, which focused too exclusively on lecture courses, instead of on observation and practice. Osler left McGill in 1884 to pursue a career in the United States, in particular at the Johns Hopkins School of Medicine in Baltimore. By 1904, when he became a professor at Oxford University in England, he was considered a leading light of clinical medicine throughout the entire Anglo-Saxon world. See Joseph Hanaway and Richard Cruess, McGill Medicine, Volume I: The First Half Century, 1829-1885. (Montreal and Kingston: McGill-Queen’s University Press, 1996), pp. 95-99 and 179-183. See also H. Bensley, ed., Osler Library Studies in the History of Medicine, Number 1, McGill Medical Luminaries (Montreal: The Osler Library, McGill University, 1990), pp. 43 and following.

25 This museum was created in 1893. McGill University Annual Calendar for Session 1901-1902 (Montreal: Gazette Printing Co., 1901).

26 More precisely, histology, pathology, dermatology and parasitology. In 1913, the parasitology courses were “copiously illustrated by lantern projection.” McGill University, Faculty of Medicine Annual Calendar for session 1913-1914, Montréal, Gazette Printing Co., 1913.

27 In 1916, the Department of Mining Engineering indicated that it had nearly 4,000 photographs, as well as major collection of photographs on glass. McGill University Annual Calendar for Session 1916-1917 (Montreal: n.p., 1916) Then, during the 1920s and 1930s, the physical science teachers, particularly H.T. Barnes and A.N. Shaw, also began to use them frequently. See the collection of photographs from the McGill University Archives, especially PG 029013, 028976 and 028975.
Canadian and American colleagues at the turn of the century brings out the simultaneous functions of these small objects, as well as the important role they played in the practice and progress of medicine, particularly with respect to the study of infectious diseases. As working tools and, ultimately, scientific exhibits, these photographic glass plates contributed to the discussions that medical experts carried out among themselves. And it appears that, on occasion, these plates accompanied medical personnel into the thick of battle. The following example, dates from 1918, that is, a time when the terrible influenza pandemic known as the “Spanish flu” was decimating the populations of Europe and North America:

Dear Archie

  “Dee lighted to hear you are to come over. ‘Twill be splendid. Get some good slides for lantern if possible. It is to be a big discussion [on influenzal pneumonia]. Rolleston asked me to open, but I had nothing special and too busy. U.S. troops in the thick of an epidemic here (...) ”

30 This letter is addressed to Thomas Archibald Malloch. A professor at McGill University and a doctor at the Royal Victoria Hospital, Malloch joined the Canadian army when World War I broke out, and served in various military hospitals. After his demobilization, he remained in England for several years before returning to Montreal in 1923. The McGill News, vol. 14, no.2 (March 1923), p. 37.
31 Letter dated October 14, 1918. The bracketed section is a detail added by Dr. Cushing himself. Indeed, when he began writing his biography of Osler, Cushing had all of the correspondence he could find concerning Osler transcribed. The excerpt presented here is one of these retranscriptions, annotated by Cushing. See Harvey Cushing, The Life of Sir William Osler (Oxford: Clarendon Press, 1925).
32 The departments of Physical Science and Geography would do so later. Up to 1940, in fact, the Faculty of Arts included the natural sciences (biology, physics, zoology) as well as commercial studies, or what we would now call the human and social sciences.
33 Unlike the series put together by F.D. Adams, those that Lomer collected were purchased as a series, mainly from British or American companies. See the McGill University Archives photography collection.
34 McGill University Archives photography collection, PG 028998.
In short, whether or not this relatively “modern” technology was used in McGill classrooms depended on the subject being taught; some subjects obviously did not lend themselves—or did so less readily—to this way of teaching. But the decision also varied with the pedagogical approaches of the professors, and their degree of ease in handling this sort of device. In this respect, William Osler, F. D. Adams and Gerhard Lomer (and particularly the latter two) stood out sharply from their colleagues. This was also the case with Maude Abbott (1869-1940) who, like Adams and Lomer, built up large collections of magic lantern plates for her McGill students. In 1917, the Royal Victoria Hospital’s School of Nursing asked Dr. Abbott to put together, for the institution, the first course on the history of nursing care. Abbott had some 200 photographs on glass made for this purpose. Her work did not go unnoticed. During the 1920s, this series of photographs was reproduced several times, and was even purchased by the Teachers College of Columbia and most of the nursing schools in Canada and the United States.

A New Use for the Magic Lantern

Adult Education

In the 1920s and 1930s, the magic lantern was used to illustrate several courses given within McGill’s regular programs. Of course, it was still associated in a more systematic way with the teaching of medicine, physics, chemistry and the applied and natural sciences. But it was employed as well in presentations on literature and architecture, and probably accompanied some of the new sociology courses.

36 Maude Abbott (1869-1940) : In actual fact, Maude Abbott stood out from her colleagues in a number of ways. She was one of the first women in Canada to obtain a degree in medicine. She specialized in pathology and earned a reputation as a specialist in congenital heart disease. She began teaching at McGill in 1912. Throughout her career, which ended in 1935, she incorporated magic lantern projections into her teaching. Her passion for the history of her discipline (a quality she shared with Adams and Lomer) encouraged her in this regard.

37 Autobiographical Sketch: An Address Read Before the Women’s Medical Society of McGill, March 31, 1928, pp. 30-32. (This was published in the “McGill Medical Journal” in October 1959). McGill University Archives, Maude Abbott Trust, M.G. 1070, c.4, access no. 2354, ref.

38 In 1929, Carl Dawson, a professor in this department, presented an illustrated lecture on “the natural history of Montreal” at the Mechanics Institute. McGill University Archives, R.G. 44, c.10, access no. 12, ref. 8/1/203. Moreover, the McCord Museum collections contain numerous slides dealing with physical and human geography, which are probably from this period. The use of the magic lantern is never mentioned in descriptions of the regular sociology courses; and it is rarely if ever mentioned in descriptions of courses given by the departments of “Literary Studies”, Education, or even...
At this time, in fact, throughout Montreal and Canada, the magic lantern had given way to film as a public entertainment. It could henceforth be found only in schools or homes, where it was sometimes used as a form of entertainment in recreational gatherings of families and neighbours. Somewhat paradoxically perhaps, McGill University, like the Université de Montréal, came to depend on the magic lantern more and more in its dealings with the public. At McGill in fact, the magic lantern was in the process of finding a new use within the framework of adult education programs.

Public Lectures

For quite some time already, McGill University had been offering Montrealers public lectures: the first went back to 1856. But it was only in the 1890s that the University began offering the public non-program activities on a regular basis. In 1900, a gift from the family of Hugh McLennan (1825-1899) (in memory of the writer) enabled McGill to set up a travelling library service: each unit carried several dozen “carefully chosen” books that were lent upon request, for a rather modest sum, to schools, reading clubs and small rural libraries, or to communities that did not have libraries of their own. In 1920, the year in which Gerhard Lomer became the head librarian at McGill University, these travelling libraries also began to offer “lantern plates as well as courses.”

In its attempts to make certain types of knowledge more accessible to the public and, in the process, to raise the latter’s educational level, McGill shared the concerns of several institutions ranging from the well-known YMCA to lesser-known institutions like the Mechanics Institutes and the Women’s’ Institute. Ties gradually began to form between McGill and these different institutions.

Architecture. Information on this matter is usually indirect.

39 Stanley Triggs, Magic Lanterns, op. cit.
40 In the 1930s, the Université de Montréal, like McGill, offered the public a variety of non-program activities, one of which was this series of “public lectures on general biology” presented in 1935-1936. All of these activities involved magic lantern projections.
Before World War I, one can not really speak about a concerted social movement in favour of adult education in Canada. Initiatives in this area came essentially from volunteer associations, private bodies, the Church and the universities. Still, the number and variety of organizations concerned with this question continued to grow.

The Creation of the Department of Extramural Relations

In 1922, the number of non-program activities offered by McGill was high enough to justify the creation of a study committee. The following year, this committee organized a series of night courses on themes which, in its estimation, might be of use to Montrealers. The success of this initiative—which was, on occasion, extended to other Québec cities (Grandmère, Ottawa and Quebec City)—prompted the University to create a Department of Extramural Relations in order to coordinate and manage some of these courses, lecture series and other outside activities. The first Director of this department was Colonel Wilfrid Bovey, who held the position for the more than twenty years between 1927 and 1948.

In the 1930s, under Bovey’s direction, the Department of Extramural Relations offered a series of evening courses. Some of these, intended for teachers, were given for university credits. These courses, which were also open to a large audience, dealt with subjects of general interest (law, for example, or economics with a focus on current issues). They delivered the rudiments of philosophy or art history, as well as providing a grounding in child psychology, astronomy and even metallurgy. This time around, the magic lantern was used whenever possible. Whether outdated or not, it could still be extremely useful in catching and maintaining the attention of non-academic audiences. The courses were given both on and off the campus, in particular at the Mechanics Institute of Montreal, which had close ties to

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47 Photograph, Wm. Notman & Son, Captain Bovey and officers of the 5th Royal Highlanders, Montreal, QC, 1914, II-206458, McCord Museum of Canadian History Collection.

48 In the 1930s, the Université de Montréal, like McGill, offered the public a variety of non-program activities, one of which was this series of “public lectures on general biology” presented in 1935-1936. All of these activities involved magic lantern projections. MacDonald College, which was affiliated with McGill, offered its own public lectures. The physical sciences laboratory of MacDonald Physics offered, for Christmas 1934, a series of courses for boys and girls, illustrated with experiments and projections. Although these courses were addressed mainly to 12- to 14-year-olds, adults could attend if they wished.

49 Indeed, as far back as the 1920s, the Mechanics Institute of Montreal designed its programs of evening

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McGill. Finally, they were also dispensed in other Québec cities—in Quebec City, for one. The Department of Extra-Mural Relations could also offer high-level university courses, which were, however, given outside regular teaching hours so that professionals might have access to them.

Several well-known individuals taught within the framework of this service. In 1932, Leonard C. Marsh, whose endeavours helped to bring about the adoption of the first welfare state measures, gave an economics course that focused on the question of unemployment. In 1934, Idola Saint-Jean (1880-1945) a feminist and President of the Canadian Alliance for the Women’s Vote, gave two French courses, one on the McGill Campus and the other at the Mechanics Institute. In 1932, Maude Abbott herself gave a course (most likely a professional development course) on congenital heart disease that was abundantly illustrated with models, specimens and, of course, magic lantern projections.

The Itinerant Lantern

A Readymade Lecture Service

In the early 1930s, Wilfrid Bovey offered the public an illustrated lecture service modelled on that provided by McGill’s travelling libraries. (It may even have functioned in conjunction with the latter.) Each of the courses made use of a series of magic lantern slides, and came with a booklet narrating the projections. Although Wilfrid Bovey himself may have, on occasion, delivered lectures of this type, these courses appear to have been rarely given by McGill professors.

Courses and lectures in close collaboration with McGill University.

50 Some forms were sent to McGill teachers by the Department of Extramural Relations, asking whether the teachers were ready to give non-program courses, or courses to non-academic audiences, and if they would agree to give these courses outside Montreal.

51 Photograph, Wm. Notman & Son, Mechanic’s Institute, Atwater Avenue, Montreal, QC, 1920, VIEW-19605, McCord Museum of Canadian History Collection.


53 Collectif Clio, L’histoire des femmes au Québec depuis quatre siècles (Montreal: Les Quinze, éditeur, 1982).

54 See the program of “Popular lectures” offered by the Mechanics Institute of Montreal for 1928-1929. McGill University Archives, R.G. 44, c. 10, no.12, ref. 8/1/30.

55 Lecture kit (slide and booklets), McCord Museum of Canadian History Collection.
The slides and booklets together made up a sort of lecture kit that was mailed out upon request to various institutions, associations or groups. This service extended throughout Québec and Ontario, and a number of travelling lecture series even made it as far as New Brunswick. The role of lecturer was assumed, for the most part, by a priest, minister or school teacher, or by a representative of the local YMCA. By 1935, there were some fifty courses. Devoted mainly to Canada, they were divided into five series (some more comprehensive than others): Geography and Travel, History, Science, Natural History and Religion.

A Community Service

This illustrated lecture service was offered for a modest fee: users were asked to pay an initial $5 to defray the cost of eventual losses and damage. If, moreover, they did not have a magic lantern of their own, they could rent an electrical one for $2 per day. In rural communities without electricity, or in places where people wanted to reduce rental costs, one could borrow a magic lantern that could be connected to a car battery. The entire kit was sent by “express post” at the client’s expense.

McGill’s illustrated lectures appeared to have generated a certain amount of interest. Among those who made regular use of them were the Montreal Mechanics Institute and the Women’s Institute, as well as Protestant teachers and pastors of several cities or small localities throughout Québec and, even, Ontario. Requests for lectures could be made by employee groups: we know, for example, that Bell Canada employees borrowed them frequently. Finally, some of the lectures offered by McGill visibly livened up a number of Masonic lodge meetings:

Moulinette, Ontario, October 27, 1936:

“Dear Dr. Lomer, I am writing to ask whether your library of lantern lectures would be available to our Masonic lodge here (...) As minister of the United Church here I might also ask for permission to hold the slides an extra day or two and show them in one or more of my church halls (...)”

56 Lecture kit (slide and booklets), McCord Museum of Canadian History Collection.

57 Letter of W. Bovey to Mrs. Chas. Smallman, Sainte-Agnès-de-Dundee, November 1, 1935. “...if you use the regular electric current for a lantern then we could forget about the $2 rental costs, but you would still have to pay for transportation; if you have no electric current, however, we could lend you for the winter, free of charge, a lantern that is worked by an automobile battery.”

58 This was not, at the time, Bell company policy. These employees requested illustrated lectures on their own initiative. Letter from G.L. Long, The Bell Telephone Company, to W. Bovey, May 4, 1936. McGill University Archives, R.G. 44, c.8, no. 12, ref. 8/1/60.

59 Letter from C.H. Dawes to Gerhard Lomer, October 27, 1936. McGill University Archives, R.G. 44, c.8, no. 12, ref. 8/1/60. Although this letter was addressed to Gerhard Lomer, Director of the McGill Library, it
This series of courses was obviously not part of any professional training program, and could not be taken for university credit. Its main purpose was to provide information, to give people an array of general knowledge and, at the same time, to entertain the audience as much as possible. Judging by the rather arid material covered in some of these courses, the magic lantern certainly played a key role here. Whatever the case, this type of activity was evidence of a desire to raise the educational level of the Canadian population, and was really and truly conceived as a community service. This view is conveyed in a letter that Wilfrid Bovey wrote in 1935 to the Director of Protestant Education in Québec. “While the lectures are not primarily intended for children, they are used for children, but are still more useful to teachers who want to render some special service to the community in which they are placed.”

The Lecture Designers and Producers

The Canadian government supplied the Department of Extramural Relations with a number of these readymade lectures. Although they had so far done little in the area, both the federal and provincial governments were beginning to show a greater awareness of—or more interest in—adult education. And at a time when the Great Depression was hitting workers very hard, some of these governments readily encouraged programs intended to maintain the morale of Canadians. The service that Bovey offered can certainly be seen in this light.

While some of the courses may have been drafted by McGill University professors, it is not certain that the magic lantern slides and the booklets provided by the Canadian government were designed to meet the specific needs of McGill, or for its sole use. Rather, this type of documentation could have been produced in keeping with a completely different type of logic. For a long time already, the Canadian government had been encouraging the production of “illustrated lectures” for the purpose of promoting Canada’s image abroad. It did so particularly—at least since the end of the 19th century—in order to boost immigration.

60 Letter from W. Bovey to W.P. Percival, December 9, 1935. McGill University Archives, R.G. 44, c. 8, no. 12, ref 8/1/60.
63 W. Bovey is probably the author of the text on the province of Saskatchewan, as well as of the booklet, “Canada’s Agricultural Lands and Development.” See his personal notes and his correspondence with P.C. Armstrong of Canadian Pacific, dated December 9 and 12, 1938 : R.G. 44, no. 12, ref. 8/1/60 et 8/1/13.
64 Thus, when McGill’s illustrated lectures service was cancelled in 1936, the head of the Women’s Institute of MacDonald College decided to ask the Canadian government (Department of the Interior) for the same type of conference kit. Letter of Hazel B. McCain to W. Bovey, September 16, 1936, R.G. 44, c. 8, no. 12, ref. 8/1/60.
In fact, several other countries provided McGill with similar kits. They included France, Czechoslovakia, China, Great Britain and some of its current or former colonies, i.e., the Bahamas, Jamaica, India and South Africa. Among these, the governments of independent countries undoubtedly had their own promotional services. Moreover, in the mid-1930s they were still clearly using the magic lantern for this purpose. Or they at least had series of magic lantern slides and accompanying booklets within easy reach, so that they could distribute them on demand.

Moreover, we know that four of the courses offered by McGill on the “history of Canada” originated with Ontario’s Education Department. These same courses were also listed in a catalogue produced in 1931 by the Ontario Government’s Motion Picture Bureau. The introduction to this document betrays a twofold concern with education and promotion:

“For a number of years the Treasury Department of the Ontario Government has endeavoured to promote throughout the Province a service for the improved education of its people, particularly to familiarize them with the resources of the Province of Ontario, by means of motion pictures, still pictures and lantern slides."

A glance at the Ontario catalogue shows that, already in 1931, the section devoted to the magic lantern was less equipped than that given over to films made for public distribution. In short, for the government as well, the era of the magic lantern was coming to an end.

**McGill University and the Canadian Pacific**

The Canadian Pacific Railway also produced at least two of the conference kits made available by McGill University’s Department of Extramural Relations: *Across Canada by the CPR* and *History of the CPR*. In fact, this company already had its own photography department—it went back quite some time—and held a tight control over its own publicity. Starting...
in 1884\textsuperscript{71}, it began to use photographic magic lantern slides for this purpose. The goals and clientele of this publicity varied, as did the technologies used to produce it. Thus, one of the first versions of a brochure entitled \textit{Across Canada by the CPR} (1905) was clearly intended to promote luxury tourism. The target group undoubtedly grew over time. We know that, in the two decades that followed, this series of photographic magic lantern slides was expanded and distributed throughout the country. At the same time, new versions\textsuperscript{72} of the accompanying text were drafted and supplied to representatives of CP passenger rail service.

It is possible that this kit, too, helped to promote immigration to Canada. Indeed, during the first third of the 20th century, Canadian Pacific was not only one of the two great railways in Canada, but also one of the country’s biggest employers, particularly of immigrant labour. At a time when the initiative in this area was left largely to the great mining, timber and transportation companies, Canadian Pacific played a very active role in immigration, and even had its own immigration agents abroad. It is more likely, then, that a previous version of the lecture offered by McGill was used in the advertising campaigns\textsuperscript{73} that CP conducted in Canada and the United States in the early 20th century in order to facilitate the sale of its lands in Western Canada.

The second text supplied by CP adopted a direct yet familiar tone to frame the history of Canada within that of the company itself:

“To us in this country the history that is really important is the story of nation building, the story of the planners and the engineers, the railway builders, the bankers, the business and professional men who between them made Canada.”

Although this brochure was, like the others, clearly offered as part of McGill’s lecture series, it was addressed primarily to the employees of Canadian Pacific. A good many of these lived in—or often visited—small isolated corners of Québec and Ontario. In Québec, in particular, CP financed the construction of YMCAs (hereafter called “Railway YMCAs”) in order to counter the effects of such isolation and give its employees recreational services and courses, in addition to places where they could meet\textsuperscript{74}. Likewise, CP, in conjunction with the local YMCAs, assumed the bulk of the transportation and other costs associated with the delivery of the lectures offered by McGill. Here, of course, the aims of adult education

\textsuperscript{71} Canadian Pacific Archives, \textit{CPR Passenger Department Bulletin}, February 1932, p. 7

\textsuperscript{72} Canadian Pacific Archives, \textit{Canadian Pacific Railway Bulletin}, January 1, 1919, p. 4; and February 1, 1920, p. 7. Slightly modified versions of the same texts were produced later in the 1920s and early 1930s. See documents no. X1132, X2305 and 3010.

\textsuperscript{73} A 1916 report of this company’s Department of Natural Resources mentions the production of articles and other print documents to advertise in Europe and the United States. “This report recommends the creation of an advertising campaign directed at the United States and Canada and oriented around the sale of company land. Mention is also made of “lecture campaigns, in conjunction with district offices in

\textsuperscript{74} A 1916 report of this company’s Department of Natural Resources mentions the production of articles and other print documents to advertise in Europe and the United States. “This report recommends the creation of an advertising campaign directed at the United States and Canada and oriented around the sale of company land. Mention is also made of “lecture campaigns, in conjunction with district offices in

\textsuperscript{74} United States (sic), illustrated by moving pictures and colored slides of agricultural scenes in the West.”

\textsuperscript{75} Canadian Pacific Archives, \textit{Department of Natural Resources: Extracts From the First Meeting of the Advisory Committee of the Department of Natural Resources, held April 1st, 1916.”

\textsuperscript{76} Canadian Pacific Archives, \textit{Canadian Pacific Railway Bulletin} no. 123, April 1, 1924, p. 14.
overlapped with a policy of industrial paternalism.

The Magic Lantern’s Final Travels

The other users of McGill’s travelling lecture series were obliged, of course, to assume full responsibility for rental and transportation costs. The Great Depression, however, gradually drained away the financial resources of a good many of them. Also, when the Department of Extramural Relations was forced to ask for a slight increase in the amount of its deposit, a number of clients dropped the service. The situation became so serious that the very existence of the program was threatened. In fact, the service was cut in 1936. It was restored, however, in 1939, and most likely continued for a few more years.

In the aftermath of World War II, the magic lantern was completely outdated, and its heyday long in the past—35 mm slides had been around since the 1930s. With the Great Depression and the war over, they could be produced inexpensively and soon came to replace the fragile and cumbersome glass slides. At that point, the magic lantern became a museum curio. For nearly four decades it had been involved in almost all aspects of life at McGill University, from study and teaching to endeavours to reach a wider audience. This is the story told by the McCord’s magic lantern, and by the precious collections of glass lantern slides that have been brought together at the McCord Museum.

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75 See in particular, “Adult Educational Possibilities in the Algoma District, C.P.R.” (undated). This document was written in the late 1920s or early 1930s. It deals with the Ontario cities or areas of Cartier, Shreiber, Chapleau and White River. McGill University Archives, R.G. 44, c.7, no. 12, ref. 8/1/30.
76 As evidenced by the series of letters Bovey received in 1936. In the early 1940s, McGill’s travelling library service was transferred to MacDonald College. Only a few years later, people no longer talked about the magic lantern slide series it had offered. See the series of letters that Bovey received in 1936. McGill University Archives, R.G. 44, c.8, no.2, ref. 8/1/60.
77 Stanley Triggs, Magic Lanterns, op. cit.