



Museum Musings

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The historical collection at the Museum of Visual Science and Optometry at the University of Waterloo originated forty years ago with the accumulation of a few antique spectacles and instruments at the College of Optometry in Toronto. Over the ensuing years many additions of artifacts have been made to the collection primarily by optometrists and ophthalmic laboratory representatives. When the Optometry building was opened in 1973, space was set aside for the display of such artifacts. A report of the general arrangement of the museum has already appeared in the Canadian Journal of Optometry.¹

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Recently a number of changes have been made in the museum exhibit and storage areas. Exhibits have been increased by the acquisition of additional display cabinets and greater use has been made of the allotted space. Most of the collection has been catalogued in accordance with Museum standards, and this work is continuing. Some account of these changes may be of interest. A general view of part of the museum display area is given in Figure 1.

Graduation Pictures

The University of Waterloo Optometry Students Association contributed free-standing 'SwingPlan' display rack in 1985. Subsequently, class graduation

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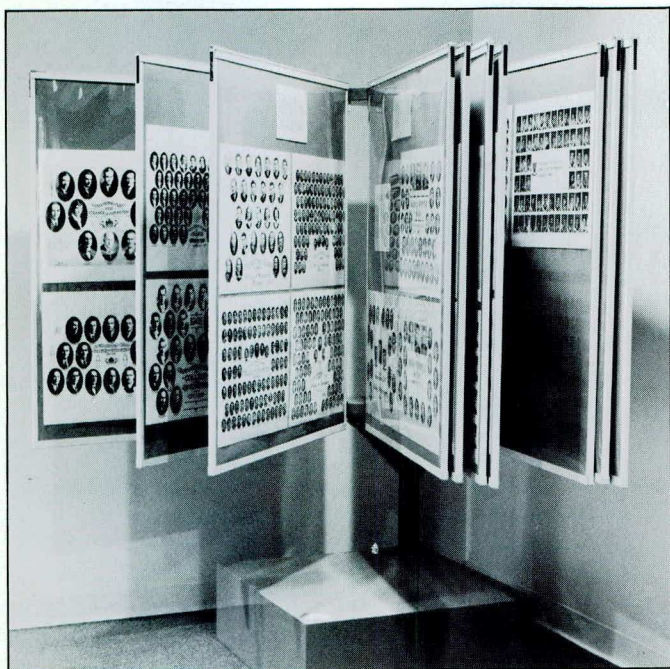


General View of part of the exhibit area.

pictures of every year from the first graduating class in 1926 to the present were obtained, reproduced in a standard size and placed on display. There were two classes which did not have these composite pictures available, so only the names of the graduates of those years could be recorded. In the case of the class of 1951, it was learned that the photographer had declared bankruptcy before the pictures were produced, and could not be traced. The class of 1961 contained only five students and they decided not to have pictures taken. In addition to the class pictures, the rack contains a brief account of the history of Optometric education in Canada as it relates to the present School of Optometry. This display is permanent and can accommodate all graduation pictures until the year 2009. Much interest has been shown in this exhibit by visiting graduates and their families, as well as undergraduates.

Spectacle Collection

The Museum possesses a very fine assortment of spectacles dating from the early 18th century. The collection has been augmented from time to time by a great many people, but one major contributor was Dr. Clifford C. Tait who practised in Toronto for many years from 1920. His collection contained more than 125 different examples of spectacles and eyeglasses. In 1970 he donated his entire collection to the museum. There are now more than 800 pairs of spectacles and eyeglasses in the museum. These items, together with some spectacle cases are displayed in a set of fitting drawers which have been modified for security. This display case is shown in the accompanying photographs.



"Swingplan" display of composite graduation pictures.



1860 stereoscope in viewing position.

Some of the 18th century spectacles on display include several made from sterling silver and hallmarked to indicate the maker, date and place of manufacture. A number of the 18th century spectacles have double eyewires, hinged so that they can be swung into place to provide reading correction or radiation protection if desired. Two or three pair are stamped with the name of McAllister, the Philadelphia optician who was among the first to provide ophthalmic care in the United States in the early 19th century. Some early Chinese spectacles are also in the museum collection.

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Eyeglasses, lorgnettes, oxfords, and pince nez of the period from 1890 to 1920 form a special section. A pair of German respirator spectacles from the first World

War has a worn metal case enclosing needle, thread and spare ear loops of cotton tape, with instructions in German explaining the method of use. By contrast, a pair of American combat spectacles from the Vietnamese war era has plastic ear loops which appear indestructible. Many other interesting spectacles and eyeglasses are shown. Each one is labelled with a brief description, and the approximate date. The lenses range from the split "Franklin" type bifocals, Perfection and cement bifocals, and even a pair of cement trifocals.

Instrument Display

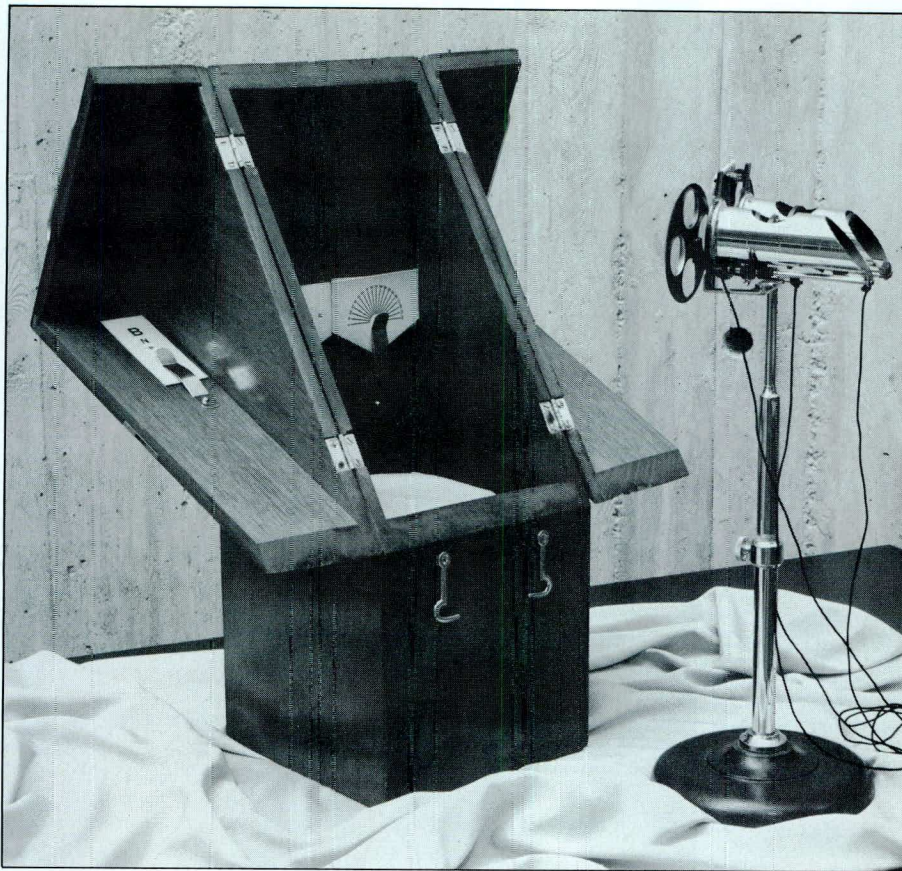
A number of early ophthalmic instruments of very ingenious design have been restored and are on display. The museum has a great number of early ophthalmometers, ski-ophthalmoscopes, phoroptors, and training instruments. Since most readers will be familiar with these, a few lesser known and unusual devices will be described.

An English stereoscope and photograph viewing device dated about 1860 has been donated together with stereoscopic cards and early photographs taken

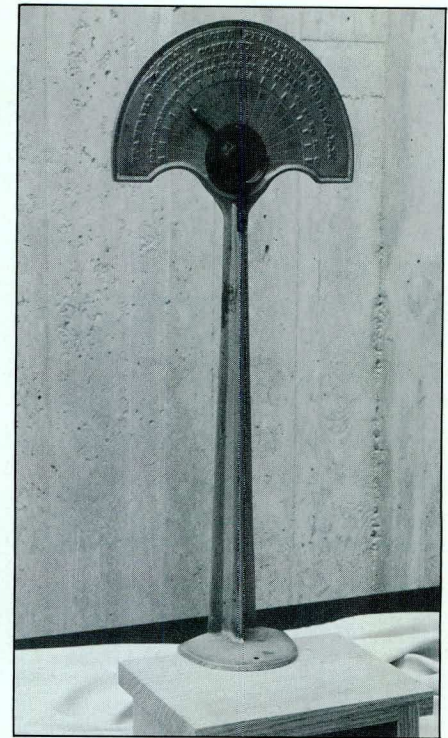
An English stereoscope and photograph viewing device dated about 1860 has been donated together with stereoscopic cards and early photographs taken in England and Europe.

in England and Europe. Perhaps it should be noted that the lens stereoscope was developed by Sir David Brewster and only came into general use about 1850. This particular instrument is made from wood, richly carved, and folds into a compact case as shown. Opened, it may be used as a focusing stereoscope or a large magnifier and adjusted for comfortable elevation. There is an opening in the top of the stereoscope section to provide illumination for the cards. A number of the accompanying stereograms show interiors of some of Europe's noted cathedrals, and with the stereoscopic effect is excellent. The top portion, which consists of a simple magnifier, also produces good clarity of the image.

An interesting examination aid is the Skiameter developed by Andrew J. Cross



Skiameter of Andrew J. Cross.



Prisometer for measuring ametropia subjectively.

about 1900 and described in his book "Dynamic Skiametry in Theory and Practice".² This device consists of two tubes each containing a type of zoom lens system. The tubes can be separated to provide proper inter-pupillary distance. The lenses are controlled by cords which extend to one meter from the patient's eyes. The examiner is able to manipulate the lenses to produce varying effective power by means of the cords. Three auxiliary lenses of -1.00 , -3.00 and -6.00 D. are available for each eye to provide for myopic correction. The lenses in the tubes are angled slightly to avoid reflections from the surfaces. Using this instrument it is possible to determine the refractive error. The entire instrument is on an adjustable table stand, and comes enclosed in a specially designed mahogany case.

Yet another interesting early instrument is the prisoptometer patented in 1886 by the Standard Optical Company of Geneva, New York. This was a subjective device, and is described in *The Optician's Manual*, Volume 1.³ The instrument consists of a double prism which can be rotated to different axis positions. The patient views through the

eyepiece and observes a white circle on a black background at a distance of some 6 metres. Two circles will be seen due to the prisms. If they overlap, the patient is myopic and concave lenses are placed in the lens wells until the two circles move out to just touch each other. If the two circles are separated, the patient is hyperopic and convex lenses will cause the circles to come closer to each other.

Appropriate spherical lens power is added until the two circles just touch. Rotation of the prisms will disclose any astigmatism, and the axis, and appropriate cylinder power is added to cause the two circles to appear to be in contact.

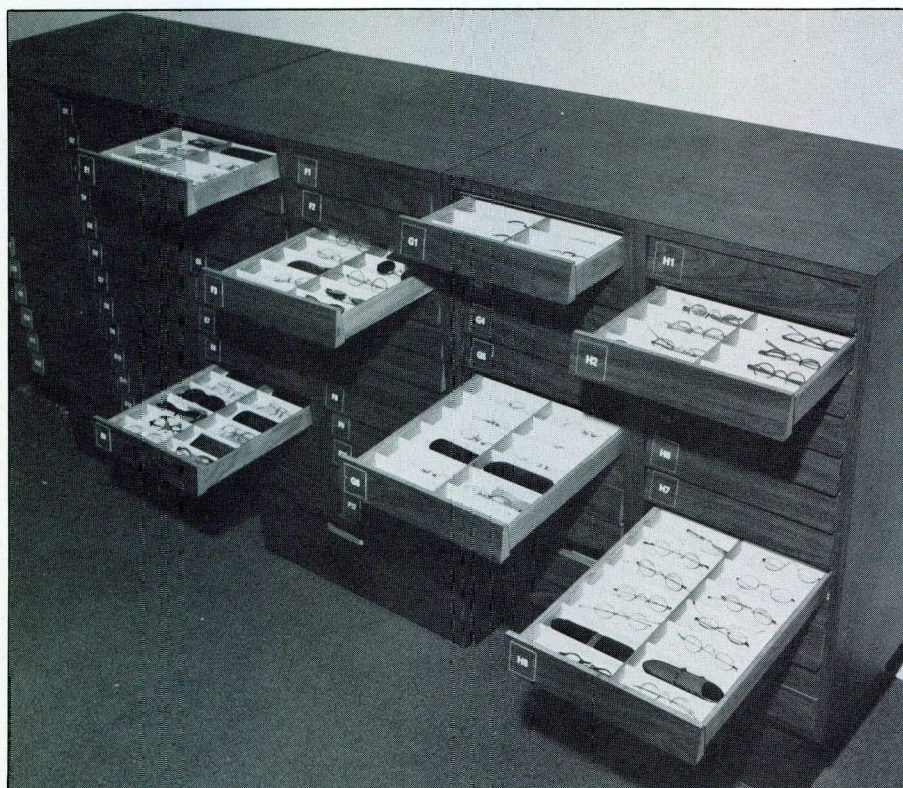
Curiously, two similar devices were donated to the museum only two weeks after the first one was received. The later additions were called ametropometers, and were made by the Johnson Optical Company of Detroit. They were patented in 1902.

Books

A large number of early books have been contributed. Many of these are of considerable historic interest. There is an excellent copy of the original translation

of Donders work "On the Anomalies of Accommodation and Refraction of the Eye". This English translation was made in 1864, and published by the New Sydenham Society. A facsimile edition of this translation was printed 100 years later. This original copy in the museum is particularly unique since it is inscribed on the fly leaf "To Dr. F.B. Loring from H.B.L., June 16 '78". Dr. Loring is well known as the inventor of a plain mirror reflecting ophthalmoscope with a focusing lens system which first appeared in the 1880's.

Another set of books is the English translation of Helmholtz's "Physiological Optics" completed by Professor J.C. Southall of the Physics Department at Columbia University and published by the Optical Society of America. Professor Southall was in charge of the Optometry program there. While these books are fairly common, this particular copy is autographed by Professor Southall for Warren J. Maxwell, who studied and lectured at Columbia in 1925 and 1926. Maxwell later practised in Fredericton, New Brunswick until his death in 1954 and was very active in both the provincial and national associations.



Display case of spectacle collection.

Other early books of some interest which are found in the museum include:

Lawson, The Eye — 1873
Second edition

(Signed "Presented to F.P. Cooke by Dr. W.G. Scott, Hull, May, 1892")

Wright, J.W. Ophthalmology

Trauger, Columbus 1896

Maddox, E.E. Tests and Studies of the Ocular Muscles

Wright and Co., Bristol 1898

Tscherning, M. Physiological Optics
Keystone Press, Philadelphia 1904

Worth, C. Squint Blakiston's
Philadelphia 1906

Sheard, C. Dynamic Ocular Tests
Lawrence Press, Columbus 1917

Every continent is represented on the guest list, as well as every Canadian province and many States.

The Museum serves a large and varied audience. Apart from the students in Optometry, there are classes from other departments in the University who attend lectures in the adjacent Visual Science Demonstration theatre and look over the exhibits between lectures. Many local groups of senior citizens, recreational, school and church organizations are given special tours. Casual visitors are

welcomed frequently and are requested to sign the guest register. Every continent is represented on the guest list, as well as every Canadian province and many States.

It would be of considerable benefit to the continued improvement of the Museum of Visual Science and Optometry if all readers would be alert to locate any unusual optical instruments, documents, licenses, certificates, books or other artifacts which may have historical significance to visual science or the profession. Even postage stamps having some optical connection would augment the present collection. Continued contributions to the museum will help to preserve and document the early history of Optometry in Canada. It is suggested that contact be made with the writer before sending any larger pieces in order to confirm that they are not duplications.

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