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Award announcement:

Nominations are now being requested for the Henry W Hofstetter Award of the Optometric Historical Society. This award recognizes scholarly research, examination, interpretation, and disclosure of optometry's heritage which has added significantly to the advancement of knowledge of its past and therefore adds to the wisdom which can mold the profession's future. Please send your nominations for this 1989 award to:

Dr. T. David Williams
University of Waterloo
School of Optometry
Waterloo, Ontario, Canada N2L 3G1

Perimetry yesterday and today:

"Perimetrie gestern und heute" is the title of an article by Dr. Bernhard Lachenmayr in the March 20, 1988, issue of Deutsche Optiker Zeitung, Vol. 43, No. 3, pp. 13-14, 16-18, 20-21, 24-26, and 28-29. Briefly mentioning the visual field concepts of Euclid, Ptolemy, Damian, and numerous other early authorities, the author unfolds the concepts and principles of perimetry as well as the varieties of instrumentation developed up to modern times. Included are 39 illustrations.

Many references are cited, but special credit for the historical details are given to H. Lauber: "Das Gesichtsfeld - Untersuchungsgrundlagen, Physiologie und Pathologie", J. F. Bergmann, Munchen, Springer-Verlag, Berlin und Wien in der Reihe, "Augenheilkunde der Gegenwart" Bd. 3, 1944. This being a war-time publication it may not be widely available.

Folk art sculpture

On page 15 of the May 1988 issue of USAIR, Vol. 10, No. 5, is illustrated in color an optician's sign crafted in the 1880's. It is a large spectacle front cut from wood, reinforced with narrow curved metal strapping, and stained in straw color. Dimensions are not stated but obviously it is large enough to be very visible when

suspended above the sidewalk in front of an optician's place of business.

The illustration is in an article entitled, "An American Sampler: Folk Art from the Shelburne Museum" on pages 12-17. The museum was founded in 1947 by folk art collector Electra Havermeier Webb on a 45 acre plat near Burlington, Vermont, USA, to house and preserve her eclectic collection of Americana.

History of ophthalmology:

Because many ophthalmologists today spend so much of their time practicing optometry one might expect a 1982 book having as its title the caption of this commentary to include a significant share of historical background pertaining to optometry. This is not the case in at least this instance. The book is authored by George Gorin, M.D., and published by Publish or Perish, Inc., Wilmington, Delaware, USA. A volume of 630 + xvi pages with dozens of photographs of early and some almost current ophthalmological personalities, 299 references, and an extensive index, it contains a massive amount of historical detail.

Written more in the style of a review of the literature the text is a seemingly endless series of factually choppy statements largely without interpretation of their significance or evidence of any relationship to the theme of the containing paragraph or the sectional subheading. Its readability resembles somewhat that of a long shopping list or a crowded bulletin board, making it hard to winnow the wheat from the chaff. It is therefore primarily useful as a library resource leading to more comprehensive references rather than as a treatise to be studied or for pastime reading.

Nevertheless the author does undertake to develop some broad themes, especially apparent from his three major subdivisions, as follows: Part I, Antiquity to 1850 (116 pp); II, 1850-1925 (188 pp.); and III, 1925-1975 (266 pp.). Part I includes people and events even remotely identifiable with ophthalmology, such as artificial eyes for statues and the evil eye superstitions, but virtually nothing optical or optometric. Outside of the four nontechnical and mainly anecdotal pages headed "History of Glasses" the words "glasses" and "spectacles" appear less than three or four times in the whole book. The words "optical", "optometry", "refraction", "lenses", and "vision" are not listed in the index. Another subsection of four pages is entitled "Physical Optics in the 18th Century", the contents of which have virtually no relationship to the physical properties of light or even to geometric optics.

These are not to suggest that the book is intended to be an aggrandizement of ophthalmology. On the contrary, Dr. Gorin

portrays the seamy side as well. For example, he comments that, "Ophthalmology had no standing in the medical profession during the Renaissance. Physicians did not want to practice it and sent their patients for eye surgery to the barber surgeons, who were often untrained and unscrupulous individuals". In several instances he reminds the reader that ophthalmologists before 1850 were persistently anti-spectacles.

Part II is subtitled "Struggle for Independence" and "Period of Reform". It opens with the statement that "The second half of the 19th century brought about a turning point in the history of ophthalmology..." One gains the clear impression that Dr. Gorin really thinks of the profession as a recent rebirth or functionally new. Among its many changes he includes its invasion of optometry in the single sentence, "Donders made a science of teaching refraction and took it out of the hands of the opticians."

One optician is mentioned in toto as follows: "Charles Prentice (1854-1946) was an optician who became an authority on ophthalmic optics. In 1886 he wrote a treatise on ophthalmic lenses. In 1915 he proposed the prism-diopter system, which was accepted universally." Eight pages are devoted to Albrecht von Graefe, six to Helmholtz, and three to Donders.

Part III is labeled the Era of Scientific Ophthalmology. It deals largely with biographical information about ophthalmologists whose lives were within living memory.

Origin of "accommodation":

In an article entitled "A Man of Fire - New Words" in the Spring 1988 issue of VERBATIM, Vol. 14, No. 4, pp. 5-7, Richard Lederer of St. Paul's School in Concord, New Hampshire, listed fifty representative words that Shakespeare seems to have been the first to have used in writing. First in the list was "Accommodation"!

In follow-up correspondence Mr. Lederer informs us that he gained this from the Oxford English Dictionary (OED) which gives the earliest citation in the year 1604 in Shakespeare's Othello, Act 1, Scene 2, line 239, in which Othello requests for his wife "such accommodation and besort as levels with her breeding."

Further consultation of the OED reveals the next earliest citation to be from the 1611 edition of Randle Cotgrave's, "A Dictionarie of the French and English Tongues". A consultation of the latter reveals the total entry as simply "Accommodation. A fitting, apting, applying, accommodating, furnishing." One might legitimately suspect from this that Cotgrave had not seen Shakespeare's coinage and had seen the word elsewhere, perhaps earlier, or had coined it himself with a slightly different connotation.

It is a bit hard to believe that Shakespeare's was the first written use of the word, by whatever connotation, of which the OED identifies many. In it the verb form "accommodate" is cited in numerous instances in 16th century literature preceding Shakespeare's birth. The past tense "accommodated" and the gerund "accommodating" both have frequent citations from the early part of the 17th century. All of the variations stem from the Latin "accommodo - are" (to fit) and its Latin variants including "accommodatio - onis" (an adjusting).

The apparently earliest written use of the term to identify the familiar ocular function that we know in optometry may have been in 1833 in Sir David Brewster's "Letters in Natural Magic" as cited by the OED. Surely one must wonder what William Porterfield, Thomas Young, and others may have called the function previously. This calls for another trip to the library.

OEP jubilee:

The Optometric Extension Program Foundation (OEP) this year celebrates its 60th anniversary. Part of the recent ceremony included the dedication of the A. M. Skeffington Memorial Library and Archives for Behavioral Optometry at the OEP headquarters in Santa Ana, California. Approximately 60 persons attended the Open House.

A twist of terminology:

More than 160 years ago in the small municipal borough of Slough 20 miles west of London Sir John Frederick William Herschel (1792-1871), a famous astronomer and a man of many other talents and missions, prepared an entry for the Encyclopaedia Metropolitana or Universal Dictionary of Knowledge on the simple 5-letter topic of Light. Though completed on December 12, 1827, it seems not to have appeared in print until 1845, 18 years later, the date of publication of Volume 4 of the encyclopedia.

The length and coverage are overwhelming. One hundred forty seven large pages (pp. 341-586 & 824) of very small print, approximately a quarter million words, with references to more than 200 figures apparently separate from volume 4, deal with just about every aspect of science one can associate with light. The opening one-sentence paragraph is the inviting summary, as follows:

In this article we propose to give an account of the properties of light; of the physico-mathematical laws which regulate the direction, intensity, state of polarization, colours, and interferences of its rays; to state the theories which have been advanced for explaining the complicated and splendid phenomena of

optics; to explain the laws of vision, and their application, by the combined ingenuity of the philosopher and the artist, to the improvement of our sight; and the examination and measurement of those objects and appearances which, from their remoteness, minuteness, or refinement, would otherwise elude our senses.

The second paragraph is similarly irresistible reading, as follows:

The sight is the most perfect of our senses; the most various and accurate in the information it affords us; and the most delightful in its exercise. Apart from all considerations of utility, the mere perception of light is in itself a source of enjoyment. Instances are not wanting of individuals debarred from infancy by a natural defect from the use of their eyes, whose highest enjoyment still consisted in that feeble glimmering a strong sunshine could excite in their obstructed organs; but when to this we join the exact perception of form and motion, the wonderous richness and variety of colour, and the ubiquity conferred upon us by just impressions of situation and distance, we are lost in amazement and gratitude.

His broad divisions of the subject are photometry, reflexion, refraction, the structure of the eye, vision, chromatics, theories of light, and affections of polarized light. It is under the topic of vision that he described how the astigmatism of the cornea could be corrected by a lens "having its surface next to the eye an exact intaglio fac-simile of the irregular cornea."

Illustrating his perceptive grasp of the contact lens concept is the following footnote, page 398:

Should any very bad cases of irregular cornea be found, it is worthy of consideration, whether at least a temporary distinct vision could not be procured, by applying in contact with the surface of the eye some transparent animal jelly contained in a spherical capsule of glass; or whether an actual mould of the cornea might not be taken, and impressed on some transparent medium. The operation would, of course, be delicate, but certainly less so than that of cutting open a living eye, and taking out its contents.

What is historically remarkable about this highly authoritative and lucid document is its unlikelihood of ever being seen by current scholars and researchers in optics or visual science. Old encyclopedias are quite rarely consulted, relatively inaccessible, and perhaps never reprinted even in paperback form. The same searchers are likely not to employ the key work "light"

in today's modern electronic information retrieval systems, nor is the document itself likely to be adequately keyed in the system. The words "optical" and "optic" appear infrequently in the body of the massive text, and the term "optics" is not included in its extensive index at all.

What may superficially seem to be minor twists of terminology or modest changes of connotation can literally mask whole areas of knowledge, in this instance a contribution that is conceivably the longest and most comprehensive single document on the broad topic of light and its effects.

A knight to remember:

In October 1849 Sir John Bennett became a Freeman of the Worshipful Company of Spectaclemakers with premises in both Cheapside, in the city of London, and in Bond Street, in the West End. To the world at large, however, he was better known as a goldsmith and clockmaker. The combination career of optics with clockmaking and goldsmithing was not unusual then, all three being prestigious callings. His nonoptical honors included appointment as goldsmith to Queen Victoria and the making of the Bennett clock which, until recent times, was the largest in the world and now graces the Ford Foundation at Dearborn, Michigan, USA.

Much to Sir John's distress, his own son John disappointingly married beneath the family's noble class and was promptly dispatched to the remote colony of New Zealand as a remittance man, presumably supported by his father so long as he remained away from English society. The nature of his career, if any, is little known though he is vaguely remembered by his living grandson Bromley Bennett, a now retired optometrist in Napier, New Zealand. John's son Harold picked up the optometric lineage thread, first by qualifying as a pharmacist, a frequent co-career with optics at that time, and then with his wife traveled to England to study optometry. There, like his grandfather Sir John, he gained his Diploma and Freedom of the Worshipful Company of Spectaclemakers. Harold and his wife then spent a year in Florence, Italy, before returning to New Zealand in 1911 to practice optometry and to give birth to their son Bromley.

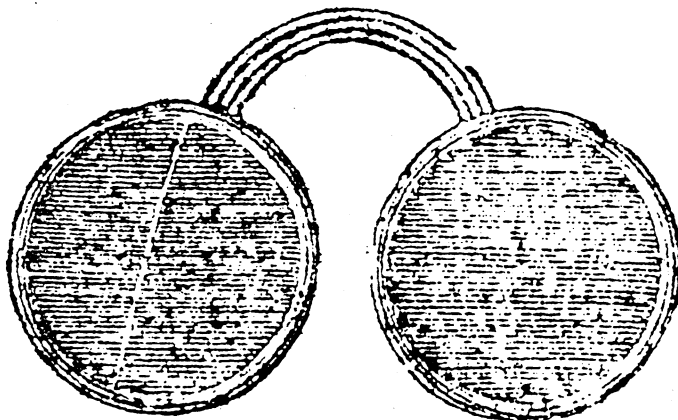
Bromley Bennett, an inveterate world traveler, is known to many of us personally and had long maintained communication with numerous prominent optometric leaders internationally. Immediately following high school, he studied optometry under the then existent apprenticeship curriculum in New Zealand. He next went to London to gain his Honours Diplomas of both the British Optical Association and the Worshipful Company of Spectaclemakers and, like his father Harold, to serve an internship at the London Refraction Hospital. During the war he served as an officer optometrist in the Royal New Zealand Army Medical Corps. Subsequently, he took

over his parents' optometry practice in Napier.

The lineage continues. Bromley's son Quentin went to London in 1960 to study optometry and became the first third-generation student at the London Refraction Hospital and a fourth-generation recipient of the Freedom of the Worshipful Company of Spectaclemakers. Now in charge of the Bennett practice in Napier he proudly informs us that since its inception in 1911 it "has always been an upstairs, brass plate practice" of which his "egotistical great-great-grandfather Sir John" would have been proud in spite of the intermittent marital malfeasance of his own son John remotely moored at the antipode.

History derived from advertisements:

The below illustrated symbolic pair of spectacles appeared in the December 31, 1758 issue of the Pennsylvania Gazette as part of an advertisement of Hannah Breintnall. It was accompanied by the legend shown below which has been copied in reasonable facsimile by means of a modern typewriter. To retain some of the original printing style, lower-case f's have been substituted for nonterminal s's to resemble the printing of Colonial American days.



Just imported in the Ship Myrtilla, Captain Belithe, from London, and to be sold by

H A N N A H B R E I N T N A L L

At the Sign of the Spectacles, in Second-street, near Black-Horse Alley,

A Great Variety of the finest Christal Spectacles, set in Temple, Steel, Leather or other Frames. Likewise true Venetian green Spectacles, for weak or watery Eyes, of various Sorts. Also Concave Spectacles, for short sighted Persons; Magnifying and Reading Glasses; and an Assortment of large and small Spy-glasses and Bone Microscopes, with magnifying and multiplying Glafs, &c. &c. Pocket Compasses of different Sizes, &c.

|| 10s. Tbctf

As reported on page 91 of the May 1987 issue of Rittenhouse Journal of the American Scientific Instrument Enterprise, Vol. 1, No. 3, Hannah Breintnall (ca. 1707-1770) and her husband John were Quakers and members of the Philadelphia Monthly Meeting. John was a whalebone cutter. According to advertisements in the Pennsylvania Gazette he supplemented his income by selling a variety of imported glasses. After John's death in 1747 Hannah continued the business at the Sign of the Spectacles, advertising new shipments whenever they arrived from London.

On pages 61-63 of the same issue of Rittenhouse is an article by Peggy A. Kidwell entitled "James Prentice's Rectangular Protractor". James Prentice (1812-1888) was the father of optometrist Charles Prentice.

During the Civil War James Prentice had added a retail optical store to his business and in his advertisements began to identify himself as an optician. In 1867 he obtained a patent (#61,099) for a pince-nez self-adjustable "to any form of nose with less pressure than any other". He also invented a so-called "anatomical eye-glass" which was made available in gold, shell, "zylonite" and hard rubber and produced by Bausch & Lomb and other manufacturers paying royalties to James Prentice well into the 1880's. What an "anatomical eye-glass" was is not explained.

In 1883 Charles joined his father to form the firm of Prentice & Son. Their catalog of that time listed a wide range of optical, meteorological, mathematical, engineering, and drawing instruments, some imported and some made in the Prentices's shop.

Incidentally, author Kidwell and Rittenhouse editor Deborah Jean Warner are both with the National Museum of American History, Smithsonian Institution, Washington, D.C. 20560. The journal publisher's address is P. O. Box 367, Dracut, Massachusetts 01826.

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