

HINDSIGHT

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Optometric Historical Society

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1996 OHS Board members and officers:

Listed below are the 1996 OHS Executive Board members and officers. Also listed is the year of each member's term expiration.

President—	Chuck Haine (1996)
Vice President—	Walter Chase (1998)
Secretary-Treasurer—	Bridget Kowalczyk (1996)
Trustees—	Alfred Rosenbloom (1997)
	David Goss (1997)
	Morris McKee (1998)
	Patricia Carlson (1999)

Call for nominations:

It is time for you to send in your nominations, or renominations, for the two positions on the OHS Executive Board which will expire at the end of this year. The members whose terms will expire are Chuck Haine and Bridget Kowalczyk. The members who receive at least three nominations and agree to serve on the Board, will have their names placed on an election ballot which will be mailed later this year with a copy of *Hindsight*. Please send your nominations to the OHS Secretary-Treasurer by August 15, 1996: Bridget Kowalczyk, ILAMO, 243 N. Lindbergh Blvd., St. Louis, MO 63141.

Membership dues:

A dues statement has been enclosed with this issue of *Hindsight*. Please send your check for the amount noted payable to the Optometric Historical Society with the lower part of the dues statement. Your response to this invoice will be appreciated as only one dues statement is intended to be sent out.

Presentation by Dr. J. William Rosenthal:

The Optometric Historical Society met on Saturday, December 9, 1995, in New Orleans in conjunction with the annual meeting of the American Academy of Optometry. Twenty-two members were treated to a presentation by OHS member J. William Rosenthal on the history of spectacles. Dr. Rosenthal's talk was well illustrated with several colorful slides. Dr. Rosenthal is an avid collector and is the author of "Spectacles

and Other Vision Aids: A History and Guide to Collecting," a 550-page book with 757 illustrations. After the talk, Dr. Rosenthal showed some of the group his display of antique ophthalmic items at the Tulane Medical School. The text of Dr. Rosenthal's presentation follows:

History of Spectacles

J. Wm. Rosenthal, M.D., D.Sc.

Well, I've written a book on the history of vision aids, and it took six hundred pages and seven hundred photographs to cover the subject. As I only have a few minutes here, I'll give a brief overview of the most prominent factors that contributed to the development of spectacles as we know them today. Since a wide array of influences are involved, including types of lenses, important discoveries and discoverers, etc., it would be logical to give them in chronological order. I'll be leaving out a lot of details, so you'll have to read the book to get them.

One of the most frequently asked questions on this subject is, "When was the first lens invented?" Actually, the first lens used for magnification purposes was discovered, not invented, several thousand years B.C. It was a clear piece of quartz that someone picked up in a stream bed, probably in Iran or thereabouts. It had been "tumbled" by the water into a biconvex shape. It was great for magnification, but few people could read. It was used to light fires with the sun's rays, to cauterize wounds, and to melt wax on writing tablets so they could be used again.

Glass, a common material for spectacle lenses, was made as far back as 3300 B.C.—as glass beads and ornaments have been found in the tombs of the pharaohs of the fifth and sixth century dynasties.

In 250 B.C., Ptolemy drew up tables of reflection and refraction. Going on to 60 A.D., Pliny, a Roman historian, tells of Nero viewing the gladiators through emerald. Whether this emerald was used as a sun glass, a myopic correction, or a mirror to alert Nero to attacks from behind, we do not know.

Although Seneca noted in 70 A.D. that small objects were enlarged when viewed through a water-filled glass globe, it took Leonardo da Vinci (c. 1500) to realize that the optical effect was not due solely to the water.

In 80 A.D. myopia was recognized by Plutarch. The first treatise on optics was written by an Arabian astronomer in Cairo in 1025 A.D. His name was Alhazen.

I'm sure you've heard the name Roger Bacon. Well, he describes the use of a magnifying glass to enlarge objects and correct the vision of aged persons (present company included). This was in 1266 in his *Opus Major*. However, he stopped short of describing spectacles.

Well finally, in 1285, an unknown person in northern Italy took the handles of two magnifying glasses, riveted the ends together, and hung them on his nose. **THESE WERE TRULY THE FIRST EYEGLASSES.**

Of course, there are contradictions to this, but they have been put to rest—like Salvino degli Armati of Florence; like the bird of Ghent; like Marco Polo who stated that he saw

Chinese wearing glasses on his first trip to China in 1275. Possibly Eskimo sun shades predated spectacles, but they only had stenopaic slits—no lenses.

In 1420, spectacle frames were being made of gold with beryl or crystal (quartz) lenses, mainly for scholars and monks. These were followed by frames of horn and leather.

With the invention of printing in 1440, the whole use of spectacles took on new meaning. Books were in schools, churches, and on the street. No more were monasteries and royal libraries their only repositories. We went public! This, of course, created a great demand for spectacles.

By 1495, spectacles were being made so cheaply, and in such quantity in Nuremberg, that ordinances regulating their production had to be enacted. Concave and convex lenses were being made at that time. Even Henry VIII had myopic lenses riveted into his jousting helmet (if he could find a horse to support him).

In 1623, Benito Daça de Valdez, a Spanish priest of the Inquisition, wrote the first book about spectacles. 1666 brought Isaac Newton's famous prism experiment—breaking up white light into its colors. Later, in 1727, Edward Scarlett in London invented temple pieces.

Ben Franklin invented bifocals in 1784. Franklin—now he was a Renaissance man par excellence, and certainly worthy of elaborating on here. He was the son of a Boston soap boiler and tallow chandler and was an importer of goods (including optical). As a businessman, he was also a printer (remember *Poor Richard's Almanac?*), and despite his marital status, he was somewhat of a roué. He was an intellectual, an ambassador to France, and an inventor. In the latter role, he dedicated his ideas to mankind, wherein others go rich. His bifocals were included in this arena and were just another way to make life easier for an old man.

In 1804, Wollaston came up with the meniscus lens. Thomas Young, in 1815, discovered astigmatism. He did this by experimenting with his own quite marked astigmatic error. In 1850, Helmholtz invented the ophthalmoscope.

Frederick Cornelius Donders, M.D., wrote a book on refraction in 1864. He was a Professor of Physiology and Ophthalmology at the University of Utrecht and another pioneer who doesn't collect the approbations he should presently. He was kind of the Rodney Dangerfield of his time. He, for the first time, explained much of the theory of refraction that we use to this day. To quote his preface: "In the doctrine of the anomalies of refraction and accommodation, the connection between science and practice is more closely drawn together than in any part of medicine."

In 1865, William Bowman invented the retinoscope. Monoyer first used diopters in 1866. Morch, in 1888, came up with the cement bifocal. Then in 1890, Prentice originated the prism diopter.

In conclusion, this varied list of discoveries, inventions, inventors, and contributors, very vaguely outlines the development at the turn of the twentieth century. And as you can see, onward and upward, we've come a long way, baby.

Notes from the O.A.I.C.C.:

Under the new title *Ophthalmic Antiques* the October 1993 issue of the newsletter of the Ophthalmic Antiques International Collectors' Club, No. 43, takes on a more attractive format.

Editor MacGregor comments that the August 19 sale of medical instruments, spectacles, etc., was the largest ever held at Christie's (London). He counted nine other club members present. The large number of buyers resulted in high prices. A pair of ordinary blued steel spectacles (broken) with a tuck-flap case and a note saying that they had belonged to the Duke of Wellington (the Iron Duke) were bought by a buyer on the telephone for £838. A pair of leather nose-spectacles in fragile condition together with a wooden dug-out case of later date brought £4,135. A Raphael's Patent Opsiometer of wooden construction brought £559.

"Age Markings on Antique Spectacles and Lenses" is an article by Jonathan S. Pointer, pp. 3-7, in which age markings on early lenses vs. their dioptric powers are compared with the 17th century lens power recommendations of Daça de Valdez and with the total dioptric corrections for near in a statistical sample from the author's optometric office records. The age marking data were obtained by soliciting the information from O.A.I.C.C. members. Their age markings were mostly from late 18th and early 19th century spectacles. This is an on-going study with further data contributions requested from collectors.

On pp. 9-10, Dr. Helga Beez, Curator of the Museum of Optics, Jena, Germany, authors "A Few Words About Spectacles," an historical description of spectacle design and use as represented in the permanent exhibitions at the museum.

The more than a hundred years' existence of Curry & Paxton Ltd, Dispensing Opticians, London, is briefly described by Derek C. Davidson on page 11. The firm was started by Messrs. Curry and Pickard in 1876 and taken over by Boots Ltd in the late 1980s.

H.W H.

An optical industry founder:

Johann Heinrich August Duncker (1767-1843), the son of a minister in the fishing village of Rathenow, who trained for the ministry with incidental studies in mathematics and physics, is recognized among German Augenoptiker as the founder of Germany's historical role in the optical industry.

While assisting in his father's church he started in his spare time making microscopes in 1792. In 1800 he and a fellow minister demonstrated their invention of a multiple spindle, hand-crank, lens surfacing machine to King Frederick William III of Prussia. On March 10, 1801, they acquired a concession for an "Optische Industrieanstalt zu Rathenow" (optical industrial plant at Rathenow).

The immediately subsequent years saw the human and economic sufferings related to the Napoleonic advances. In 1803 Duncker's partner Wagener withdrew from the enterprise, but Duncker's determination, energy, and competence soon identified him at the recognition level of such names as Huygens, Fresnel, and Thomas Young. He is given the credit for establishing Germany as the optical industry center of the world.

Duncker's persistent mission was to make the best possible eyewear available to all who could be helped, including the visually impaired and poor. In 1815 he authored a booklet of advice about spectacles, their nature, selection, and application, with a second edition in 1820.

In 1972 the firm bearing his name was expropriated by the East German government and identified simply as the Rathenower Optische Werke. Still standing in the city is a four-pillar memorial and a bust of Duncker in honor of the city's most famous son.

The above information is from the February 20, 1993, issue of *Deutsche Optiker Zeitung*, Vol. 48, No. 2, pp. 24-26 under the title, "Johann H.A. Duncker: Begründer der Rathenower Optischen Industrie."

H.W H.

Allan Ramsay's "The Spectacles":

Included in the January 1993 issue of the *Ophthalmic Antiques International Collectors Club Newsletter*, No. 42, p. 3, is a "plain English" transcription of a poem published in 1729 in Edinburgh in Volume II of "Poems by Allan Ramsay," on pages 116-117. According to the *O.A.I.C.C. Newsletter*, Ramsay (1685-1758) was a popular Scottish poet whose style was similar to that adopted with greater success by Robert Burns some thirty or forty years later.

Unable to track down the original publication through our Interlibrary Loan facility, I requested a photocopy from Editor Ronald J.S. MacGregor so we could read it in the difficult but quaint early style of printed letters among which some of the s's look a bit like f's. He responded promptly, so here we reprint the original.

The Spectacles.

Æ Day when *Jove*, the High Director,
Was merry o'er a Bowl of Nectar,
Resolved a Present to bestow,
On the Inhabitants below.
Momus, wha likes his Joke and Wine,
Was sent frae Heaven with the Propine:
Fast throw the Æther-fields he whirl'd
His rapid Car, and reach'd the Warld:
Conveen'd Mankind, and tald them *Jove*
Had sent a Token of his Love,
Confidering that they were Jhort fighted,

That Faut ſhou'd preſently be righted.
 Sync loos'd his Wallet frae the Pillions,
 And toſs'd out Spectacles by Millions.
 There were enow, and ilk an choſe,
 His Pair and cock'd them on his Noſe:
 And thankfully their Knees they bended
 To Heaven, that thus their Sight had mended.
 Streight *Momus* hameward took his Flight,
 Laughing fou' loud, as well he might.
 For ye maun ken, 'tis but o'er true,
 The Glaſſes were ſome Red, ſome Blue,
 Some Black, ſome White, ſome Brown, ſome Green,
 Which made the ſame Thing different ſeem.
 Now all was wrong, and all was right,
 For ilk believ'd his aided Sight,
 And did the Joys of Truth partake,
 In the abſurdeſt groſs Miſtake.

H.W H.

Two emerging collectibles:

Two historically significant books about spectacles, both of limited edition, and both of aesthetic design as though for reception room attention, may well become collectors' items within a decade or two if not already so on the dealers' lists. Both are in English, though one was published in 1988 in Leipzig under the sponsorship of the formerly East German foundation called the Carl-Zeiss-Stiftung, and the other in 1962 in the formerly West Germany firm of Carl Zeiss Oberkochen/Wuerth as a "Special Booklovers' Edition." With the reunification of Germany and of the two Zeiss firms both books must be out-of-print.

The 1988 book, "A Spectacle of Spectacles," edited by Wolf Winkler, includes 20 pages of introductory remarks about the sponsoring foundation, seven hundred years of spectacles, and eyeglasses and art. The remaining 150 pages are a well illustrated catalogue of European and Asian spectacles and graphic works depicting various types of early eyewear, with full documentary details.

The 1962 book, "Ocular Sketches," is a collection of four "Excerpts from World Classics" that involve vision aids in their plots. About three-fourths of the book is the story "The Spectacles" by Edgar Allan Poe (1809-1849). The next two are translated, short, multiple-couplet poems by Christian Morgenstern (1871-1914) entitled "The Unseen" and "The Spectacles." The fourth is "The Spectacular Ruin," a fairy tale by Mark Twain (Samuel Langhorne Clemens, 1835-1910).

The Poe story, incidentally, was reviewed on page 12 of the January 1973 issue of this newsletter, Vol. 4, No. 1.

H.W H.

O.A.I.C.C. newsletter excerpts:

The April 1994 issue of Ophthalmic Antiques, No. 47, announces that a craftsman named Peter Butler has produced reproductions of rivet spectacles for sale to club members and is working on the reproduction of leather spectacles.

Club member Arthur Frank asks why the word "binoculars" should end in "s," since "bi" already connotes two.

On pages 3-7 Derek Davidson authors an article on the history of the London optical firm of R. Archer & Sons Ltd. which was established in 1859. The text clearly describes the close relationship of early spectacle making to jewelry and goldsmithing.

On pages 6-7, Colin Fryer describes "Ophthalmics in the reign of Henry VIII," including the roles of the church and the guilds. At the age of 37 Henry had "purchased 10 pairs of spectacles from Thomas Bentall for 3 shillings and 4 pence."

H.W H.

Hofstetter Symposium papers published:

The August 1993 issue (Vol. 70, No. 8) of *Optometry and Vision Science* contained the papers presented at the Hofstetter Symposium held at the December 1992 meeting of the American Academy of Optometry. The meeting was held in the Optometric Education Section of the Academy to honor Henry Hofstetter's contributions to optometric education. Some historical topics were included. The titles and authors of the published papers were:

- A biographical sketch of Henry Hofstetter, Meredith W. Morgan
- Graduate education in optometry—what do we need?, Alden N. Haffner
- A history of M.S. and Ph.D. programs offered by schools and colleges of optometry in North America, David A. Goss
- Who will be tomorrow's optometric educators?, Theodore Grosvenor
- Optometric history—who cares?, Douglas K. Penisten
- International cooperative exchange programs in clinical optometry, George C. Woo
- An international perspective on optometric education, William R. Baldwin
- Teaching the traditional optometry with the new optometry, Irvin M. Borish
- The optometric literature—an editor's perspective, William M. Lyle
- The optometric educator's role in public health issues, Edwin C. Marshall

On optometric eponyms:

Probably ranking third place behind abbreviations and acronyms among the plagues hampering the historian are the eponyms. All three give the reader a minimum of identity of the phenomenon or entity involved except that the eponym connects it with a person whose name and contributions may be familiar. The only other gimmick less revealing than any of these three may be the numerical or alphabetical tagging or

identification of each member of a series, often used to imply sequence, priority, or other criterion of rank or separation typically obvious within the immediate context.

Ostensibly "to glorify the many contributors to behavioral optometry," the late Homer Hendrickson undertook the preparation of "Eponyms of Behavioral Optometry" published posthumously by the Optometric Extension Program, Santa Ana, California, in 1993. For each of the 120 eponyms a paragraph or more describes the entity itself together with at least one reference. Unfortunately, the cited references do not necessarily provide the clues as to the historical origin of the eponyms, but they provide avenues of approach for anyone wishing to track down their earliest appearances.

H.W H.

A noble gesture:

Eyewear is so ubiquitous and of such variety of design as to suggest that is a purely current phenomenon. It prompts little thought of its long and elegant history. So, it is gratifying to have received a tastefully assembled booklet from the optical company SOLA simultaneously commemorating its own 20th anniversary and the prior centuries of eyewear history with a colorful and cleverly chronological series of artistic illustrations. It is especially suitable as a reception room item to be seen by persons who otherwise might be quite unaware of our ophthalmic heritage. Its copyright date is 1995 by Sola Optical USA.

H.W H.

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