

HINDSIGHT

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Optometry at the frontier:

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On more than one occasion I have asserted, without proof, that optometric services played hardly any role at all in the western frontier movement across the Atlantic Ocean and the North American continent. My logic was simply the belief that in the centuries involved, the 16th through the 19th, the commercially available spectacle lenses were almost exclusively simple plus spheres for presbyopes, and the frontier participants were comprised equally exclusively of able-bodied, fairly emmetropic, youths, mostly in their teens.

Recently I enjoyed reading Stephen E. Ambrose's "Undaunted Courage," a thoroughly documented and remarkably detailed account of the Lewis and Clark expedition opening up the American West during the years 1804 to 1806. The expedition platoon consisted of a nucleus of 31 volunteers supplemented in segments of the specially skilled local personnel. Co-captains Lewis and Clark were in their early 30s and the rest of the party were younger, carefully selected, healthy volunteers submitting to military enlistment for the project.

The 500-page book includes nary an optometric concept except the mentioning that one pro tem private, a halfbreed hired for his language skills, was "nearsighted in his only good eye." This comment was a mere conjecture in trying to place the blame for a misdirected rifle shot that injured Captain Lewis. Another entry in Captain Lewis's journal notes stated "soar eyes is a common complaint among the party." For sore eyes he used a wash made up of two parts white vitriol (zinc sulphate) and one part sugar of lead (lead acetate).

To impress the Indians with their powers, Lewis and Clark would bring out their "magic show" which included, among other things, a magnifying glass that could start a fire by focusing the sun's rays on dry leaves and kindling, and a telescope (spyglass). Among the trinkets, beads, and other "geegaws" serving as gifts to Indians they included "looking glasses" (small mirrors) described by one Shoshone warrior as "things like solid water, which were sometimes brilliant as the sun, and which sometimes showed us our faces." Such items, plus a sextant, a chronometer, and certain other precision instruments with optical components needed for scientific observations, may well have been fabricated by east coast or European opticians, but they would hardly have constituted optometric involvement in terms of vision correction or care.

It seems to me that the assertion in my opening sentence is well supported by the Lewis and Clark documents.

H.W.H.

Early gullibility:

Charlatanism is the pretension of more knowledge or skill than is possessed. It is a particularly serious issue in the health care field for two reasons. One, the victims, members of the public, are typically unsophisticated in the science of health care, and two, it is socioeconomically awkward for the legitimate practitioners to initiate measures to restrict perpetrators of the quackery lest it be construed as restraint of competition.

During the first half of this century an optometric case in point was the "throw away your glasses" propaganda initiated largely by W.H. Bates, M.D., and a variety of adherents who offered clinical services based mainly on Bate's assertions and theories.

The late Jim Leeds prompted my memory of this era by calling my attention to two interrelated books. One is *The Cure of Imperfect Sight by Treatment Without Glasses* authored by Bates in 1920. The other is *Stories from the Clinic* authored by Bates' nurse Emily C. Lierman in 1926. Both were published by Central Fixation Publishing Co., New York City. They are respectable-looking cloth-bound books of several hundred pages with tables of contents, indices, prefaces; etc., giving a textbook resemblance. I recall having seen these or companion books in the university library a half century or so ago. At that time I scanned a dozen or two pages of each and returned the books to the shelves as worthless reading. I did not "pick up the cudgel" to battle the fraud. It may have seemed to me that any person with reasonable intelligence would recognize its lack of validity and dismiss it off hand.

This time, spurred by Dr. Leeds' prompting, I decided to read through the two books with some deliberate care. After about thirty pages of each I began to resort to mere scanning page by page and sampling numerous paragraphs in which key words suggested potential validity concepts. I felt like I was slogging through a swamp, impelled to follow through by the awareness that these publications had once met with wide popular readership including a number of converts of recognized literacy stature.

So that you who are reading this may share my experience, I quite blindly opened each book within approximately the middle third of its text and rone each pari of pages selected one or more paragraphs that seemed to me to exemplify the style and intellectual caliber of the book as a whole. Here they are.

From pages 110-111 of the chapter entitled "Strain" in the Bates book:

Two little girl patients arrived one after the other one day, and the first accused the second of having stopped at Huyler's for an ice-cream soda, which she had been instructed not to do, being somewhat too much addicted to sweets. The second denied the charge, and the first, who had used the retinoscope and knew what it did to people who told lies, said:

"Do take the retinoscope and find out."

I followed the suggestion, and having thrown the light into the second child's eyes, I asked:

"Did you go to Huyler's?"

"Yes," was the response, and the retinoscope indicated no error of refraction.

"Did you have an ice-cream soda?"

"No," said the child; but the telltale shadow moved in a direction opposite to that of the mirror, showing that she had become myopic and was not telling the truth.

The child blushed when I told her this and acknowledged that the retinoscope was right; for she had heard of ways of the uncanny instrument before and did not know what else it might do to her if she said anything more that was not true.

So sensitive is this test that if the subject, whether his vision is ordinarily normal or not, pronounces the initials of his name correctly while looking at a blank surface without trying to see, there will be no error of refraction; but if he miscalls one initial, even without any consciousness effort, and with full knowledge that he is deceiving no one, myopia will be produced.

From pages 84-85 of the chapter entitled "Experiences with School Children" in the nurse's book:

I wish everyone who contributed to our Christmas Fund could have been with us on the Christmas of 1923. We had our first tree. Not only did our clinic patients enjoy it, but our private patients as well. I fear, too, that on more than one occasion, a private patient was kept waiting much longer than he cared to wait, while Dr. Bates hovered around that Christmas tree. Dr. Bates does not like to neglect his work, but that tree needed his attention, he thought, even though he was keeping his patients waiting. His orders were not to purchase anything cheap. The clinic family is precious to him and must have the best of everything. When it came time to distribute the toys and candies to the children, I saw him peeping in at the doorway, and this added pleasure of having a tree for them did him a world of good. The children all love him because he does so much for them.

Having read these we may smile with the satisfaction of knowing that this is now history. Or is the game still going on? Let us read the newspapers and magazines, watch television, listen to radio, and peruse the junk mail a bit more analytically. We may find that the pawns are of different shades and color, that the playing court is now an electric keyboard, and that other ailments replace imperfect sight. A knowledge of history can be our best antidote for gullibility.

H.W H.

Thanks for the enemy:

Before the turn of the century American optometrists, then called opticians, made some relatively unenthusiastic overtures to state legislatures to enact optometric registration laws. They were primarily responding to veiled threats or rumors that the medical profession was initiating plans to accomplish this by regulation of optometry subordinately under the licensure provisions of the medical bureau. In the State of New York the optometrists' efforts had started in 1897 under Prentice's urging. Pennsylvania optometrists followed suit in 1898 without success. Fifteen years later the Pennsylvania law was amended to authorize the medical bureau to license "branch" medical practices. In 1914 the bureau declared its intent to so license optometrists. This met with mixed emotions among optometrists but the attitude quickly changed under the forceful and convincing leadership of a young Philadelphia

optometrist named Albert Fitch. Legal action was then initiated which led to the state supreme court decision that optometry is not a branch of medicine.

The above is described in great detail in an editorial entitled "Fitch's Choice" by John G. Classé in the April 1996 issue of the *Journal of the American Optometric Association*, vol. 67, no. 4, pp. 186-187. In the next five pages in an article entitled "Celebrating 75 years at the Pennsylvania College of Optometry," Thomas L. Lewis gives a fine historical account of Albert Fitch's role in the establishment of the Pennsylvania College of Optometry chartered in 1919 and his stewardship as president until his death in 1960. Lewis's article continues the developmental history of the college through its 75th anniversary in 1995.

H.W H.

Gems from Ophthalmic Antiques:

The last several issues of *Ophthalmic Antiques*, the newsletter of the Ophthalmic Antiques International Collectors' Club, contain several interesting historical tidbits. The July 1994 issue, no. 48, mentions that "The Seeing Eye, Eyeglass to Spyglass" by Arthur Frank is a new 42-page booklet illustrating about 175 antique vision aids with comments on their history. It is available at £4 per copy from the Ophthalmic Antiques International Collectors' Club.

Replica eyebaths are produced by Summit Art Glass of Ravenna, Ohio, U.S.A. The U.K. Opticians Act of 1958 was so tightly drafted that a special clause had to be inserted to permit an antiques dealer legally to sell a pair of antique spectacles. John Dixon Salt authors a 3-page article on "optical Patron Saints," pointing out their origins with the early days of Christianity. Most of the article deals with Saint Lucia of Syracuse (A.D. 304).

Colin B. Fryer authors a 3-page review of "Ophthalmics in the Reign of George II," the years of 1727 to 1760, a surprisingly progressive 33 years.

The October 1994 issue of *Ophthalmic Antiques*, no. 49, p. 3, includes an article entitled "The History of Eyewear in Mexico" by Frank Devlyn. The article actually deals more with the business aspects than with spectacles per se. It describes the increased involvement of optometrists, ophthalmologists, and manufacturers during the 19th and 20th centuries.

On page 7 John Dixon Salt gives a number of biographical details of optical patron Saint Odilia (variously Ottlia, Othilia, or Odile), c. 660-720. On page 8 Colin Fryer entertains us with nine "Optical Legends of Old Cathay," pure legend, of course.

Ronald J.S. MacGregor, editor of *Ophthalmic Antiques*, has a knack for spotting bits of information that may be of interest to members of the Ophthalmic Antiques International Collectors' Club. Quite understandably some of these have incidental significance to optometric history insofar as they illustrate or document our status and competence in various eras. In the January 1995 issue, no. 50—for example—he informs us of a new "Musée de L'instrumentation Optique" housed in Le Capitole,

Place de la Mairie, F-686000 Biesheim, France. Biesheim is in northeastern France, not far from Strasbourg. He also calls our attention to two new historical books, *Da Guckste* by Helga Beez and *Brillen des 20 Jarhuderts* by B. Michael Andressen. From Pierre Marly he learned that the letters *NB* stamped on the steel bridge of a pair of bow spectacles may be the initials of Nicolas Bion, 1652-1733, of Paris. On pages 6 and 7 is an article by Ida Mann entitled "Dr. Josef Dallos, Contact Lens Pioneer."

The April 1995 issue of *Ophthalmic Antiques*, no. 51, calls our attention to a half-page article in the Saturday, December 31, 1994, issue of *The London Times* entitled "For Your Eyes Only." On pages 3-5 of the same newsletter Frank Davidson tells us about Matthew William Dunscombe (1848-19??), "The First Great Collector of Antique Spectacles." Among other accomplishments he authored a booklet entitled "Vision and Spectacles" in 1875. On page 6 Mr. Salt describes the legend of optical patron Saint Herve (variously Harvey), 6th century. On page 7 Colin Fryer describes "Old Chinese Spectacles."

The July 1995 issue of *Ophthalmic Antiques*, no. 52, features an article on pages 4-6 by Charles Letocha entitled "John McAllister, the First True Optician in the U.S.A." On page 7 is a full reproduction of a mid-nineteenth century handbill distributed by optician "John Solomon, Licensed Hawker, No. 4613, A. according to Act of Parliament." The handbill was contributed by Hugh Orr and is dedicated, "To all who value their SIGHT which is so subject to debility." On page 8 Colin Fryer cites numerous examples of spectacles mentioned in medieval literature. On page 9 John Salt describes another optical patron saint, Saint Audomarus (variously Omer or Otmar), d.c. 669.

Ronald MacGregor, editor of the October 1995 issue of *Ophthalmic Antiques*, no. 53, describes in detail a Netherlands tour of ophthalmic antiques collections by a group of 20 club members from several countries on August 24-27, 1995. In another item he mentions that Jonathan Pointer has published a 17-page article on "age markings on antique spectacles, and presbyopia" in *Ophthalmic and Physiological Optics*, vol. 15, no. 4, 1995.

On pages 4 and 5 of the newsletter, Colin Fryer authors an article on the history of the solar microscope, an instrument equipped to utilize the sun for illuminating the specimen under view. It was developed around the beginning of the 18th century and continued to be made until the second half of the 19th.

Very briefly reviewed are three books as follows: *Theaterverreijkers* (Opera Glasses) by Jean-Marie Devriendt, *Eyebaths-Eyewash Cups* by Willem Banninga, and *Society and Optical Aids* (a doctoral thesis on the history of vision aids, published in Greek) by Ann H. Diamondopoulou-Drummond.

In the April 1996 issue, no. 55, editor MacGregor calls our attention to a 7-page report by Judith Stevenson in *The London Archaeologist*, vol. 7, no. 12, 1995, entitled "A new type of late medieval spectacle frame from the City of London." The several pair of centrally riveted bone spectacle frames recovered there in 1974 and more recently are thought to be from the late 14th century or early 15th century. They are on display at the Museum of London. Both the Stevenson article and

MacGregor's review (pp. 3-6) include several photographs and fine-line drawings to show the design features.

There is some doubt as to whether the frames are made from bone (bull metacarpal) or from horn. Three pinholes in each of the shoulders of the frame extensions to the rivet suggest their purpose as supplementary vision aids as well as decorations, hence the "very first multifocals."

On page 7-8 Colin Fryer describes ocular conditions and treatments that occurred in the military, medical, and nursing Order of the Knights Hospitallers of St. John of Jerusalem (and later Knights of Rhodes) founded in 1099 A.D.

On page 9 John Dixon Salt describes the legend of the optical patron saint, Saint Govan (variously Gobhan, Gobban, Gowan), ca. 586. His remains are said to lie in a 6th-century hermit's chapel "halfway down Pembrokeshire cliff" in Wales. He is celebrated on 26 March.

In the July 1996 issue of *Ophthalmic Antiques*, no. 56, p. 1, Editor MacGregor amuses us with the information that the well known Johnnie Walker image on the labels of the world's best selling Scotch whiskey has now been changed to a new version without the quizzing-glass. It seems that the market researchers found the old figure to be too "rakish," too "snobbish," and too "English."

On pages 3-5 Werner Weismuller describes "Two German Trade Cards" in his private collection, including a photocopy of each. One is that of Optiker Gottfried Tauber of Leipzig in 1814, the optician who provided Goethe with scissors spectacles for his five or six diopters of myopia. The other is that of Josef Kriegsmann, an optician in Ansbach, Bavaria, Germany, from 1825 to 1876. Both trade cards illustrate engravings of a wide variety of visual aids and other optical instruments.

On page 10 are brief reviews of four books of interest to collectors. One is *Eye and Instruments* by I. Tonkelaar, H.E. Henkes, and G.K. van Leersum, published by Batavian Lion, Amsterdam, 1996, 304 pp., hardback, a detailed catalog of 19th-century ophthalmic instruments in the Netherlands. Another is *Binoculars* by Fred Watson, Shire Publications Ltd., 1995, 32 pp., paperback. It covers the basic history and optics of binocular, opera glasses, and field glasses. A third is *In View, the Telescopes of the Luxottica Museum*, edited by Marisa Del Vecchio, published by Luxottica, 1995, 127 pp., hardback. The fourth is *A Spectacle of Spectacles*, 178 pp., hardback. This is a catalog of the Jena Exhibition in the U.K. in 1988/89. The Ophthalmic Antiques International Collectors' Club has a few copies for sale.

The October 1996 issue of the newsletter includes a detailed description of two pairs of very early spectacle frames made of beechwood and a wooden spectacle case found at Freiburg, Germany, in 1982 during excavations for an underground car-park near the Augustine Monastery. "They were resting at the bottom of a closet."

Also described is a medal designed by Dutch artist Chris van der Hoef (1875-1933) for the participants in the 13th International Ophthalmological Congress in 1929. A pair of old spectacles and a burning candle are represented on the face of

the medal. Another medal by the same artist depicts the 16th-century Gate of the Old Men's House in Amsterdam faced with a carved stone depicting a pair of leather spectacles, the "domestic trade mark" of that institution.

Editor MacGregor describes a weekend trip to Sweden by nine members of the Ophthalmic Antiques International Collectors' Club which included a visit to the Gertz collection in the optometry practice of Iwan Wessblad in Uppsala and to the Swedish Museum of Optical History in Stockholm. Valerie Mellor describes her reaction to the "grotesque spectacled helmet" presented to King Henry VIII by the Emperor Maximilian in 1514. It is being removed from the Tower of London to the new Royal Armouries Museum in Leeds.

The January 1997 issue of *Ophthalmic Antiques*, no. 58, calls attention to a newly-opened museum of spectacles in Amsterdam founded by Jan Teunissen at Gasthuismolensteig 7, 1026 AM Amsterdam, Holland.

On pages 4 and 5 under the title "Golden Memories," optometrist Arthur Frank describes his introduction to the profession in the mid 1930s and his failures and successes in developing practices in Glasgow and the islands of North and South Uist, Islay, and Barra in the Hebrides.

On pages 6 and 7 Colin Fryer retells Goldsmith's Gross of Green Spectacles as a Christmas story. On pages 11 and 12 he describes 16th-century "peepshows and perspective boxes." These devices were derived from the portable camera obscura adapted by simple converging lenses to permit monocular viewing of an enclosed painted picture illuminated by both transmitted and reflected light. Because the monocular viewing eliminated the binocular nondisparate fusion otherwise induced by the flat picture itself, it allowed the monocular depth clues of the painting, especially perspective, to predominate to give an enhanced appearance of depth in the painted scene. In a footnote Fryer reminds us that these perspective boxes are not to be confused with a device of the same name later invented by Robert Hooke, 1635-1703. Fryer also describes variations of design of the boxes, variously called peepshows, appearing during the 18th and 19th centuries.

H.W H.

The boxing method:

Leafing through the July 1996 issue of *Frames Lab Talk*, I was a bit startled on page 12 by the Industry Profile column captioned "Thomas P. Lynch, Creator of the Box Measurement." Having spent the early years of my career in close association with the late Glenn Fry, I was very aware of Glenn's extensive involvement with the "boxing system" of spectacle lens measurement and had presumed that he rather than Mr. Lynch was the "creator."

Yes and no. The *Lab Talk* profile identifies Lynch's contribution with the authorship of a 1950 booklet entitled "Lens and Frame Information" in which the boxing system is explained. However, I made a quick library search and discovered that Dr. Fry had described the same system in the June 12, 1947, issue of the

Optometric Weekly as a method which "makes use of the distances between vertical and horizontal tangent lines," geometrically a bit more precise than "box."

In telephone conversation Mr. Lynch takes no credit for coining the "box" term itself, but he reports that his booklet sold over a quarter of a million copies worldwide and is credited with eliminating a frequent error in the mounting of spectacle lenses.

H.W H.

17th-century notions:

Because Descartes (1596-1650) theorized the separation of the mind from the body, must he have been curious about what goes on in the brain after the visual image is formed? Elwin Marg touches upon this in his review of *Descartes' Error: Emotion, Reason, and the Human Brain* by Antonio R. Damasio, 1994, in the November 1995 issue of *Optometry and Vision Science*, vol. 72, no. 11, p. 847.

H.W H.

Institutional history:

In a 6-page editorial entitled "Opportunity in Adversity" in the June 1996 issue of the *Journal of the American Optometric Association*, vol. 67, pp. 307-312, Dr. Alden N. Haffner traces the history of the State College of Optometry of the State University of New York back to its origins with the closure of the prior optometric program at Columbia University. It also involved the interim operation of the Optometric Center of New York.

H.W H.

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