

JAN 31 1977

INDIANA UNIVERSITY

NEWSLETTER
OF THE
OPTOMETRIC HISTORICAL SOCIETY
(7000 Chippewa Street, Saint Louis, Missouri, U. S. A. 63119)

Volume 8

January 1977

Number 1

Election results:

This time we had three duly nominated candidates for the vacancy on the Executive Board created by the expiration of Dr. James Gregg's term. Ballots continued to arrive almost daily for two months, but finally a whole week passed without a return. Leading by a substantial margin was Grace Weiner, but each of the other two received almost a fourth of the votes.

The present Executive Board consists of the following, with each member's year of expiration in parentheses: Sol Tannebaum (1977), John R. Levene (1978), Henry A. Knoll (1979), Maria Dablemont (1980), and Grace Weiner (1981).

Late in December ballots were sent out to all five to elect officers for 1977 from among themselves. Because all the ballots are not returned at the time of this writing (December 20) I cannot announce our 1977 officers in this issue.

Plateau was blind:

Joseph Antoine Ferdinand Plateau, 1801-1883, of Belgium was one of the best-known scientists of the nineteenth century. After he received a diploma in law in 1824 he studied for a doctorate degree in the physical sciences and mathematics which he completed in 1829. In the same year he undertook a physiological optics experiment involving direct fixation of the sun for 25 seconds, which blinded him for several days, but his sight returned partially. For the next 14 years his sight gradually deteriorated, and in 1843 he became permanently blind. This calamity did not interrupt his scientific activity. Aided by his wife and son, and later by his son-in-law, he continued to the end of his life his research on vision, -- directing the course of the experiments which they conducted for him, and interpreting their results.

His namesakes include the Talbot-Plateau law and Plateau's spiral.

Extracapsular extraction circa 800 B.C.

A study of the original text "Sushruta Samhita, Uttar Tantra" suggests that Sushruta's method of cataract extraction was not couching but rather a method more directly allied to the extracapsular extraction of recent times. So report P.N. Roy, K.S. Mehra, and P.J. Deshpande in a one page

article entitled "Cataract surgery performed before 800 B.C.," British Journal of Ophthalmology, Vol. 59, No. 3, March 1975, p. 171.

With this procedure no anesthetic was used. A needle was inserted into "the anterior chamber of the eye at the junction of the medial and lateral two-thirds of the outer portion of the white layer (sclera) of the eyeballs. If a sound was produced followed by the gushing of watery fluid, then the surgeon's needle was considered to be in the correct part of the eyeball, but if this puncture was followed by bleeding, it meant that it was misplaced." The needle was used to cut around the lens, and then the patient was asked to blow only down the nostril on the side of the afflicted eye. The postoperative care consisted of the application of a few indigenous medicines (roots and leaves) to the eye with a bandage and instructions to the patient to lie flat on his back for ten or more days.

"Adam" is identified:

My comment on page 83 of the October issue of this newsletter, "... the above-mentioned Adam is new to me" brought two immediate responses, one from Sidney Groffman, O.D., P.O. Box 855, Red Bank, New Jersey 07701, and the other from Alan York, O.D., One Main Street, East Hampton, New York 11937. Both assured me that "Adam" had to be a misspelling of Adams, namely George Adams, who meets the identity of "optician to the Prince of Wales," etc.

George Adams' book was entitled AN ESSAY ON VISION, BRIEFLY EXPLAINING THE FABRIC OF THE EYE AND THE NATURE OF VISION, Second edition, London, 1792. The book was completely reprinted in the 1941 Yearbook of Optometry, published by the New York State Optometric Association, New York, May 1, 1941, D.R. Uttal, Editor.

Festival of Lights:

An unusual greeting card arrived in October from Dr. Narendra Kumar, Editor of Optometry Today, with the wording "On the auspicious occasion of the FESTIVAL OF LIGHTS 'Optometry Today' wishes you all the best in every sphere of your life."

Never having heard of this festival I checked two encyclopedias and found the following. Dewali, also spelled Divali, the Festival of the Lights, is a five-day, autumn, October-November, festival in India honoring Lakshmi, also spelled Lakshmi, the goddess of wealth. It ends the Hindu year and is observed by orthodox Hindus by the lighting of oil lamps.

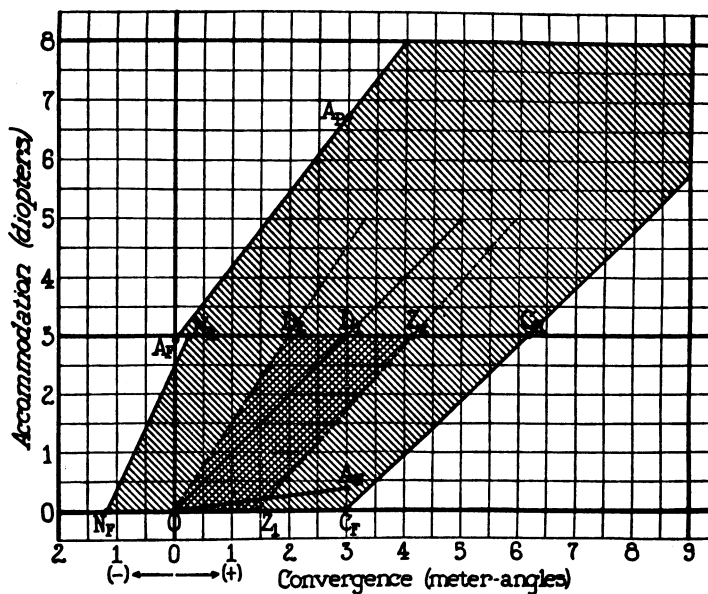
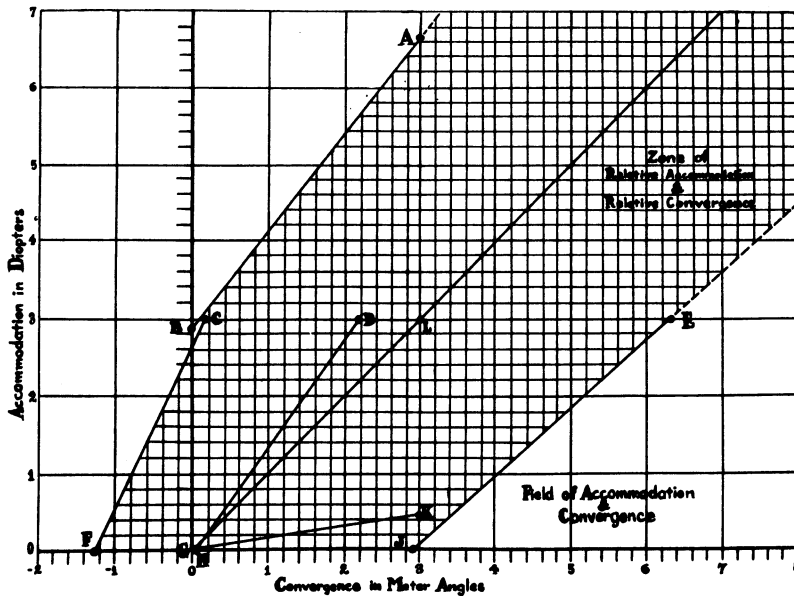
In Burma the festival of the full moon in October is similarly a festival of lights which originated from Dewali.

Also, there is an eight day Jewish festival of lights beginning on the 25th of Kislev and commemorating the victory of the Maccabees over Antiochus of Syria and their rededication of the defiled Temple of Jerusalem.

This festival is known as hanukkah, also variously spelled hanukah, chanukah, and chanukkah.

A graphic confession:

Here are two startlingly similar graphs, indeed, in many respects so nearly identical as to make the differences seem intentional:



The upper one comes from an article by Frank W. Weymouth, Paul R. Brust, and Franklin H. Gobar entitled "Ocular Muscle Balance at the Reading Distance and Certain Related Factors," in the American Journal of Physiological Optics, Vol. 6, April 1925, pp. 184-205. At the time of publication Charles Sheard was editor of the journal in which the article appeared. The graph was represented as a plot of data obtained on 63 students by the three authors at the Laboratory of Physiology, Stanford University.

The lower one comes from an article by Charles Sheard entitled "Zones of Ocular Comfort," in the American Journal of Optometry, Vol. 7, No. 1, January 1930, pp. 9-25. A footnote to the article informs us that the paper was read before the American Academy of Optometry at Chicago, Ill., December, 1928. The same article appeared in Vol. 3, Report of the Transactions of the Seventh Annual Meeting of the American Academy of Optometry, held at Chicago, Ill., Dec. 2-3-4, 1928. In this paper Sheard had quoted the Weymouth et al article on a related topic but gave no clew that his graph might have been derived therefrom. Neither did he say that it was derived from his own research.

I had been aware of both of these graphs for some years in connection with my own studies and had assumed they were duplicates. I also assumed it was mere oversight on Sheard's part not to have given credit to Weymouth. Consequently, in later years when Dr. Sheard was editing The Sheard Volume, published by the Chilton Company, Philadelphia, 1957, I took occasion to remind him personally that his memorial volume would provide him opportunity to correct this oversight. He responded to my suggestion in his typically gracious manner.

Later when I received the newly published volume I checked quickly to see if he had made the acknowledgement. The original article was reprinted in full; in the figure legend, on page 279, he had added parenthetically, "Note: A chart of this same general character appeared in an article by Weymouth, Brust and Gobar in 1925."

This impressed me as a disappointingly grudging credit line, and I never quite forgave Dr. Sheard, whom I had long regarded with the same high personal esteem and affection I held for Frank Weymouth.

A month or two ago I decided to dig out contemporary publications of both Sheard and Weymouth to see which one really published the graph first. I found that both had published articles about the accommodation-convergence relationship and clinical optometric tests during the decade prior, but neither had published the graph in an earlier paper. Then came my surprise. I had the two volumes lying open on my desk with their two graphs side by side. They are not identical!

History of research on seeing:

This is the title of Chapter 1 of Volume V of Handbook of Perception edited by Edward C. Carterette and Morton P. Friedman, Academic Press,

New York, 1975. This volume is entitled Seeing, and Chapter 1, pp. 3-23, is authored by Yves LeGrand. The commentary is limited essentially to the earliest history of knowledge of light and vision, dioptrics of the eye, the retina, the visual pathway, and the visual functions of form, space, and color. 34 references.

Tasmanian legislation, 1912:

Optometrist Eric S. Padman, 47 Brisbane Street, P.O. Box 518, Launceston, Tasmania, Australia 7250, sent us a photocopy of the original bill introduced to the Tasmanian parliament in 1912 entitled, "A Bill to Secure the Better Training of Opticians, to Regulate their Practice, and for other purposes." He will donate the original to the archives of the Australian Optometrical Association.

He also sent us a photocopy of a lengthy supporting statement prepared by Newham Waterworth, Honorary Secretary of the Tasmanian Optical Association. The following two paragraphs are of special historical interest:

"In order that Honorable Members of the Legislative Council may have independent expert opinion as to the points at issue between opticians and medical men the following facts are stated -

"In 1903 the Worshipful Company of Spectacle Makers received a memorial signed by the late Lord Kelvin and many other scientific men, members of Parliament and others, praying for an enquiry into the desirability or otherwise of sight-testing by non-medical practitioners. (Up to this time the Worshipful Company had not held any examination in practical sight-testing). A Committee of investigation was appointed consisting of the Right Hon. Lord Aldenham M.A.; Sir Marcus Samuel; the Right Hon. Sir Wm. Hart Dyke, Bart. M.A.; Lieut. Colonel Sir Horatio Davies; and others. The conclusion of this committee based on elaborate expert evidence was to the effect that fitting spectacles and adapting lenses to correct mechanical defects of sight is an art or profession wholly distinct from those of medicine or surgery. The report stated that it was eminently desirable that the optician should test the vision and that a theoretical and practical examination affecting this part of his practice should be added to the Company's examination scheme. This verdict was endorsed by Sir William Crookes, Sir William Abney, Lord Rosse, Sir Robert Ball and other eminent scientific men. It was decided accordingly that an examination in sight-testing should be instituted, and the results of those examinations have been of vast benefit to the public."

In another document on Tasmanian Optical Association letterhead two columns are arranged, the left column consisting of paragraphs from "THE MEDICAL ASSOCIATION'S CASE IN OPPOSITION THERETO.", and the right column consisting of corresponding paragraphs of "THE OPTICAL ASSOCIATION'S REPLY."

Two pair of paragraphs deal with the terms oculist, optician, and optometrist, as follows:

Objection

"That the term 'Oculist' should not be assumed by any person who is not a legally qualified medical practitioner."

Reply

The Bill expressly prohibits Opticians from using the title of 'Oculist.'

Objection

"That to obviate confusion in the public mind of the terms 'Optician' and 'Oculist' it would be advisable to omit the former altogether."

Reply

Why omit the older term in preference to the more recent? In any case this matter can be left to right itself seeing that the word "Optometrist" is gradually taking the place of "Optician."

A personal comment by Eric Padman adds a familiar touch, as follows:

"The interesting thing is that the Bill was introduced to the House by Mr. Lyons who, at that stage, was a Labor man and, I think, Leader of the Opposition. The Premier at that time was A.E. Solomon, who was my uncle by marriage. The handwritten notes on the document are those of my father who was working from Launceston at this time, and the accompanying propaganda document put out by the Tasmanian Optical Association, of which Newham Waterworth was the Secretary. Newham, of course, was Phil's father. I suppose the whole operation was even more effective because at that time my father was courting my mother, and she was teaching on the staff of J.A. Lyons at some primary school.

J.A. Lyons later crossed the House, changed to Federal politics, and later became the U.A.P. Prime Minister of Australia for some years in the mid to late 30's - Joseph Aloysius (Joe) Lyons."

Another item sent us by Padman is a photocopy of a couple of printed pages of an old leaflet or pamphlet distributed by optometrists of his father's time, perhaps in the '30's. One of the illustrations is that of an early painting showing the use of spectacles, the investiture of Friedrich of Nuremburg with the Brandenburg Electorate, April 17, 1917. The credit line reads, "From a coloured picture of a contemporary manuscript by Ulrich Richenthal, now in the University Library at Prague."

TABO or not TABO:

In 1964 Mr. C.S. Flick, a Director of the London Course of Optometry, editor of INFOCUS, optometric internationalist, and a student of records, sent me the following explanation of the acronym TABO which I happened to see in print.

"TABO is a made-up word from the initials of the German committee which first laid down this notation for cylinder axes. It is the notation which we in this country, and I think all American optometrists, regard as 'Standard', i.e. reading counter-clockwise, as one faces the patient, both eyes the same, with zero (or 180) on the horizontal meridian.

"It was originally suggested in England by an Optical Society Committee in 1904. An International Ophthalmological Congress in Naples in 1909 complicated things by suggesting a bi-nasal notation, but it never caught on. In 1917 a committee was formed in Germany called the Technischer Ausschuss fur Brillenoptik. It could hardly be an international committee because World War I was still on, but nevertheless it adopted the standard notation previously suggested by the British Optical Society and gave it the name TABO. After the war, in 1921, the British Ophthalmological Society accepted as standard officially for Great Britain the same TABO, which had been originally put forward by us and was in fact by that date in almost universal use here by ophthalmologists and optometrists and opticians. The relevant reference in the literature to this event is Brit. Jl. of Ophthal., July 1921.

"I hope this covers your points. I am off next week on an interesting 8-day fact-finding trip to Hungary, Czechoslovakia and East Germany, the results of which you will no doubt see in print in due course."

Letter from Alan York, O.D.:

"A random note to let you know how much I look forward to receiving the Newsletter of the O.H.S., and also to thank you for your continuing efforts as editor.

"A couple of points -- on page 66 the item concerning ophthalmological coins and medals --, the classic article on the subject is A. Pflugk, 'Brillenmunzen und Brillenmedaillen' (very rare) published in Halle in 1921 as a reprint from an ophthalmological journal. It lists every known coin and medal portraying spectacles or someone wearing them, going back about 500 years, as well as tokens issued by opticians back to the 17th century.

"I would very much like to have a sharp photocopy of the article on coins and medals for my reference library, as I collect these.

"Yes, the stars in the Great Dipper were used as an eye test in ancient Asia Minor. Try it yourself some time. The second star from the end of the

'handle' in the Big Dipper is a 'double star.' You need almost 20/15 vision to see the separation between the two stars, which is what was wanted for certain crack regiments of archers in the Assyrian horde.

"I am fascinated by the continuing references to optometric history in German, Norwegian, French, Russian, etc. which appear in the newsletter. A suggestion -- would it be possible to have translations made of them, to repose in the library? Possibly some student, not necessarily an optometric student, could make a translation, so that photocopies could be made for the use of the members. It is really tantalizing to read these references and realize that translations are not available in our country.

"Again, many thanks!"

Santa Lucia Day, December 13:

Santa Lucia, or Saint Lucy, has been variously identified as patroness of the eyes, optics, vision, and sight. Who was she?

She was born in Siracusa (Syracuse), Sicily, in 283 A.D. of a Noble Greek family. She lived during the 284-305 reign of Emperor Diocletian, who inaugurated the last and most severe Roman persecution of Christians.

When Lucia declared her devotion to God and virginity her suitor became very indignant. In his anger he accused her before the governor of being a Christian. When she remained resolute the judge commanded her to be exposed to prostitution in a brothel; but, as the story goes, God rendered her immovable, so the guards were not able to carry her thither. Then an attempt was made to burn her, but this too was unsuccessful. At length she was martyred with a sword thrust into her throat, on December 13, 305 A.D.

Possibly on account of her name, suggestive of light and lucidity, she was invoked during the middle ages by those who suffered from poor vision, and various legends grew up, e.g., that her eyes were put out by a tyrant, or that she herself tore them out to present them to an unwelcome suitor who was smitten by their beauty. By any account her eyes were miraculously restored to her, more beautiful than before.

In Italy Santa Lucia is the patron saint of ophthalmic optics. Santa Lucia day, December 13, is celebrated by the ottici (opticians/optometrists) in very dramatic ways, including banquets, speeches, and honor ceremonies.

According to a brief article in the November 1976 issue of Lutheran Brotherhood/BOND, page 14, St. Lucia Day is celebrated by the high school girls' organizations at Thabor Lutheran Church, Wausa, Nebraska, in a unique way to remind congregation members of their Swedish heritage. The "Thabor Teens" make authentic costumes representing each district in Sweden from which members of their church came. The costumes are worn by the girls on December 13. A young woman chosen to represent St. Lucia

wears a white robe and is crowned at breakfast ceremonies with a wreath of huckleberries and seven lighted candles. The girls sing Christmas and traditional Swedish songs and, in the days following, they visit the elderly and shut-in members of the community.

The same article provides a recipe for Lucia buns, a special cardamom flavored treat to be enjoyed that day.

From another source I learned that in Stockholm, Sweden, there was founded on December 14, 1939, what appears to be a rather exclusive membership organization which calls itself the Sancta Lucia Gille. It seems to be a group dedicated to the preservation of some of the social traditions of the optical crafts, a kind of heritage guild. The 1974-75 list of 63 members showed 60 in Sweden and one each in Denmark, Finland, and Norway. Only a very few members are initiated each year.

More on Carl Lehnberg:

Robert v. Sandor of Stockholm read my comments on the 1756 pamphlet entitled TAL Om OPTIKEN in the July issue of this newsletter, Vol. 7, No. 3, pp. 65-66. He promptly sent me an English translation of a Swedish review by Magnus Buve which appeared in the February 1976 issue of NORDISK TIDSSDRIFT FOR OPTIKERE, No. 1, pp. 9-10. The translated review follows:

A few years ago the Swedish Royal Academy of Science had occasion to dispose of excess copies of several old documents. Mr. Robert Sandor learned that among these were several copies of two articles by Carl Lehnberg published by the academy. Mr. Sandor prevailed on Mr. Gösta Blomkvist of Swedish Zeiss, Ltd., to acquire the available copies of the Lehnberg pamphlets, which was done. Mr. Rune Fahlström, Manager of Swedish Zeiss, kindly made a copy available to me.

I owe Robert Sandor thanks for additional information about Lehnberg, that our own well known (optical) historian Otto Ahlström mentioned Lehnberg briefly as an understudy of Klingenstierna in a paper about Klingenstierna and Dolland. Ahlström's paper was published in The Optician (London) a couple of years ago. As a matter of fact I have not heard of Lehnberg in any other connection. Nevertheless, a handwritten history of his life exists in the Royal Academy of Science archives. This account was started in connection with Lehnberg's selection to membership in the academy and completed after his death in 1768.

Lehnberg mentioned his mentor and employer Samuel Klingenstierna with deep respect, "It is Mr. Klingenstierna whom I must give respectful credit for my knowledge of elementary and fundamental optics and for whatever proficiency I have attained in lens-grinding."

Klingenstierna (1698-1765) is one of the best known names in natural science in 18th century Sweden. He was primarily a mathematician but as was frequent among scientists of that era his interests were diverse, and he showed a special interest in optics. Among other things he was an ingenious self-taught lens grinder and made lenses of good quality for his own use. It is possible that he even made lenses for optical instruments for the well known technician Daniel Ekström. He was interested in the design of achromatic systems for telescopes by combining flint and crown glass, which the Englishman Dolland was working on also. The two scientists wrote letters to each other, and Klingenstierna also corresponded with other English scientists while he, himself, was a member of the Royal society and was submitting papers to the society.

In his work with lens calculations and manufacture Klingenstierna had a clever assistant in Carl Lehnberg. Klingenstierna valued Lehnberg highly and obtained for him a subsidy which made it possible for Lehnberg to study lensmaking methods at the most famous optical laboratories abroad. He learned and observed techniques in Germany, France, and England for several years, returning to Sweden in 1751. He then received 3,000 coppers to enable him to start his own optical workshop where he could grind lenses. His lenses were certified in the reports of experts to be of higher quality than any available abroad.

Upon passing the examination of the Royal Academy of Science Carl Lehnberg was granted the privilege of optical instrument maker and became a member of the academy. He made his inaugural address to the academy in 1762. His topic was the history of optics.

An earlier speech was published with the title (translated) "Speech about optics, made for the Royal Academy of Science by Carl Lehnberg, upon his application for membership, the 28th of August 1756," It is, according to the author, (translated) "an unadorned story about the genesis and development of optical instruments." The story begins with Archimedes' and Euclid's parabolic mirrors and "anneal glass." We are informed by Lehnberg that the vestal virgins lighted the holy fire with the help of "anneal glass."

The story continues with Seneca's Quaestiones Naturales with an explanation of the rainbow's genesis, the optical effect of the water-filled glass sphere, and the spherical mirrors that magnify and minify. Vitello seems to have been the first to explain clearly the "anneal glass effect."

Then we are told about the invention of glasses by Alessandro di Spina and about the great scientists in optics from the 13th to 18th centuries, - Bacon, Molyneux, Smigh, Porta, Kepler, Snellius, Huyghens, Lippershay, Galileo, Hadley, Newton, and Cassegrain. Telescope construction and improvement is dealt with at considerable length.

Lehnberg's later paper is a short speech entitled (translated), "Speaking of optics and the modern development of refracting telescopes, read before the Royal Swedish Academy of Science" when, on October 27,

1762 he was "given notice of acceptance to membership." Like the first speech, this was printed by Lars Salvius as an academy publication.

In this latter speech Lehnberg wrote about the dispute between Newton and Euler concerning the radiation of light, a dispute in which both Dolland and Klingenstierna took active part. He also discussed Dolland's experiments with various kinds of glass and also his successful experiment with lenses of different refractive index, all related to the improvement of the image quality of the telescope objective. He reported, too, that the telescope at the royal observatory in Stockholm was constructed or designed by Dolland. It is conceivable that either Klingenstierna or Lehnberg was technologically involved.

Magnus Buve

In case you find two or three confusing points in this review let me hasten to explain that these may be attributable to difficulties of interpreting old Swedish into current Swedish, current Swedish into continental English, and finally my editing of the latter to conform to American English. For example, I do not understand what "anneal glass" is, though I suspect it refers to molten glass cooled slowly to minimize optical flaws.

From Washington to Carter:

Paul C. Gerber, editor of the AOA News authored a delightful commentary on the wearing of spectacles by 28 of our 38 presidents and one president-elect. His article entitled, "The Eyes of the Presidents", appears in the October issue of the Journal of the American Optometric Association, Vol. 47, No. 10, pp. 1245-1260. Illustrated wearing glasses are 15 presidents.

Fifteen of his 33 reference citations are derived from "Mr. President - How Is Your Health?" By Karl C. Wold, M.D., The Bruce Publishing Company, St. Paul, 1948.

The Thiele crossed-cylinder technique:

Herr Professor Dr. phil. Werner Thiele started teaching optics in the Deutschen Schule für Optik und Fototechnik, Berlin, on March 1, 1935. In 1939 he started teaching the crossed cylinder technique for measuring the power and axis of astigmatism to the optometry students. In 1941 he gave the first formalized German course on the procedure for practicing optometrists (Augenoptiker). Many Germans therefore presume him to have been the originator of the method, and it is very probable that he himself thought so as well. Consequently it is not unusual for German Augenoptiker to identify the procedure as the Thiele technique.

Dr. Thiele, a physicist, was born August 28, 1908. He served as Director of the Fachschule für Optik und Fototechnik from 1947 to 1962.

He died on July 14, 1976. His obituary appears in the August 15, 1976, issue of Süddeutsche Optikerzeitung, Vol. 31, No. 8, p. 66.

Wilfred, not William:

Dr. W.S. Palmer, who authored the extensive commentary entitled "From about 1907" and "Over Fifty Years of Observations and Participation" in the July 1976 issue of this newsletter, Vol. 7, No. 3, pp. 42-63, advises us that his first name is Wilfred, not William. The latter is usually presumed, but incorrectly, because his familiar nickname is "Bill."

Fraternal support:

An attractive 6 x 10 cm advertisement in behalf of the Optometric Historical Society was included on the front page of the August 1976 issue of Optist, Vol. 35, No. 1, published by the Omega Epsilon Phi international optometric fraternity. It is gratifying to receive such support.

This gesture should remind us that the history of optometric fraternities is itself an aspect of our professional development which is ordinarily overlooked. Undergraduate collegiate fraternities have long been looked upon by many with considerable suspicion and disdain. Such circumstances, however, should not deter us from trying to get the records straight, to find out what influences the fraternities actually had on our heritage. Just a chronology of their origins and durations together with their locations and affiliations would be a good start. There were at least 10. Then if we could collect copies of their charters, by-laws, rituals, membership lists, publications, and other paraphernalia we might begin to get a clearer picture of the fraternity as a social phenomenon.

More memorializing:

The National Vision Research Institute of Australia, 374 Cardigan Street, Carlton, Victoria 3053, Australia, has named two of its laboratories in honor of optometrists. One is the Donald H. Schultz Laboratory and the other the Ray Swaby Laboratory. Schultz is a distinguished optometrist and optical physicist in Adelaide well known throughout Australia. The late Ray Swaby was nominated for the honor by a group of his contributing colleagues in the southwestern district of Victoria.

Maryland Optometry:

Israel Dvorine, O.D., has taken pen in hand and described some of the events in "The early history of optometry in Maryland" beginning in 1904. The article appears in the December 1976 issue of the Journal of the American Optometric Association, Vol. 47, No. 12, pp. 1558-1567.