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Jay Enoch's Column:

A Recent Challenging Article:

Sennacherib, Archimedes, and the Water Screw: The Context of Invention in the ancient World. Stephanie Dalley and John Peter Oleson. Technology and Culture, Volume 44, Number 1, January, 2003, pages 1-26.

An interesting article is called to the attention of our readers. It does not deal either with vision or optics. Rather, it calls attention to important recent publications and the production of a documentary for P.B.S. by the B.B.C. The two authors could not agree about who first invented or utilized certain technological/scientific developments. At issue was the "water screw", an important device with broad uses which helps promote irrigation and in transferring/distributing water within farming communities and gardens in a number of lands. The device remains in use in various forms to this day. Could this discovery be attributed to King Sennacherib (704-681 B.C.) of Nineveh (and those working for him – the probably designers of his gardens and associated devices) for use in the famous "Hanging Gardens of Babylon", or to somewhat later contributions by the famous Greek scientist-scholar Archimedes (287-212 B.C.), *per se*. Authors Dalley and Oleson, who exhibited personal sensitivity and integrity (although agreeing to disagree), decided to address the problem together as part of the broader problem of attribution and discovery in the ancient world. The readers may or may not agree with all of the arguments of these two scientists, but they made an honest effort to define and discuss issues encountered.

Like every group, we, too, have a number of issues of first attribution and the need to sort out invention, or introduction, or utilization of given items – some of which are the results of incremental development, and in some cases, were found, lost (or were they?), and apparently found again, etc.

The great passions which have been encountered when asking "by whom", "where", and "when" spectacles were invented, is but one of the comparable issues in our field. Just a few weeks ago, at the Ocular Heritage Society meeting held at the William Connor Museum at Alcon Corporation in Fort Worth, in March, 2003, Dr. William Rosenthal indicted that spectacles were invented in 1287 A.D., and he silenced potential opposition with the statement that he did not want any argument about this! His statement was made not defiantly, but in good humor! Far be it for me to challenge my friend Bill in this area. But this has been a contentious issue for decades.

The writer suspects he will disturb some individuals interested in the history of spectacles in what follows. This is not the intent! Rather, the writer sought to make arguments comparable to those raised about the water screw as a means of conveying to the reader the sorts of questions which also need to be considered when seeking to understand historical matters of the past, and which are addressed in the references paper.

Today we are aware that the first *known* lenses can be traced to “Ka” statues (designed to capture the essence of the individual) in Egypt ca. 2625 B.C. (IVth Dynasty of the Egyptian Old Kingdom). This is at least three millennia plus before 1287 A.D. And these Egyptian lenses were just too good, too well polished, too replicable, too complex in design, to be the first of anything! These remarkable lenses were no longer to be found after the Vth Dynasty of the Egyptian Old Kingdom, except for a brief re-appearance in the XIIIth Dynasty of the Egyptian Middle Kingdom. A new style of lens (convex/plano or double convex) spread quite rapidly throughout the Levant (first origins?, perhaps Minoan or Greek?, other?). And among other civilizations, the same or different lens forms were developed. Summary lists of early lenses used have presented variously by Mills in a series of publications (Mills, 1997-1998), by Enoch (e.g., 1998, 2002), as well as others over the years.

Given the obvious need for magnification, presbyopic corrections, and refractive corrections, in general, by artisans and craftsmen; scribes; writers of micro-documents (various); encoders; jewelers; creators, users and readers of seals; the rich and powerful of the ancient world; etc., these early lenses must have been cherished items passed on from generation to generation (so stated to the writer by a distinguished archaeologist). The writer was impressed greatly by an article by D. Collon (1990, also see Enoch, 1998 for citation including illustration) discussing ancient cylinder seals. *She called attention to one cylinder seal which had been in use over a time span of 800+ years.* She documented fine dateable stylistic additions to the seal which had been made by at least two different users of this seal during the 800 year time period.

As will be documented in a later column, use of mirrors can be traced back 8000 years! As noted before in this column, the first known lens stated as being used for magnification and refractive purposes can be traced to Seneca, the Younger, a Roman born in Cordova, Spain (ca. 4-65 A.D.). Seneca filled a glass “Florence flask” with water and found that it had superior image qualities relative to the image formed by his concave mirror system (apparently in broad use at that time in Rome). He compared the optical quality of the flask lens and the mirror system and by inference realized that mirror and lens optics served common purposes. The latter observation may have been a first! Was Seneca the first to fill a flask with water and realize that it could magnify an image, or help a presbyope to see? One doubts this. Such flasks had been around for a period of time, e.g., in Frejus, France, in Murano, Italy, etc.

The question that arises is what was discovered when spectacles were introduced? Was it lenses? No. Was it lenses employed for magnifying the fine work of craftsmen? No. Was it lenses used to correct hyperopia or presbyopia? In one

sense, perhaps yes; in another sense, probably not – prior use of lenses for these purposes by individuals over the intervening millennia cannot be ruled out. Was it dual lenses mounted simultaneously for binocular vision? Perhaps? Were there a number of near parallel breakthroughs in availability of such items, provision of lens corrections at more reasonable cost, (i.e., the availability of cheaper glass lenses – after a period of use of more expensive rock crystal, quartz, or beryl lenses), was it the development of a classification scheme of some sort for lens powers – critical for the orderly manufacture of a volume of such wares, was it the development of printing and the revival of learning and intellectual activities in the early Renaissance – i.e., creating a demand for fine vision? Perhaps it was some combination of these factors? Economic historian Prof. Vincent Ilardi of the U. of Massachusetts will argue that these latter factors played a major role in spectacle development and in their utilization. No doubt, Ilardi would state the case somewhat differently. Clearly, broad development of reasonable quality glass manufacturing at reasonable cost, and at least a reasonable and satisfactory means of mounting the lenses for monocular and binocular applications were important.

One key point made in the Dalley and Oleson paper is that development of technologies and their attribution in ancient times is a complex matter. A number of conditions must pertain for success. In our case, in addition to discerning a need to create a lens or spectacles and its (their) applications, there had to be available a suitable transparent and homogeneous medium for the device to function (essential materials), suitable grinding compounds (both source and access to the appropriate materials) and grinding and polishing technologies must have evolved, there must have been developed skilled artisans to make the product, there must be the demand for the product, and/or the product must meet a perceived need(s), and there must be funding to support the associated venture(s).

The argument by the two authors in this journal article leads to the same sorts of questions and discussions relative to the water screw. Quoting the fine summary Editorial in *Technology and Culture*, "...We begin in ancient Assyria – in the "Hanging Gardens of Babylon", to be precise. Stephanie Dalley and John Peter Oleson were involved in a 1999 B.B.C. production that examined a theory that the water screw was famously attributed to Archimedes (287-212 B.C.). Might the technology have been known much earlier? Dalley, an Assyriologist brought forward evidence that suggested that the Archimedean screw might in fact have been used by King Sennacherib (704-681 B.C.) in the 7th century B.C.E. to help irrigate his palace garden at Nineveh. Oleson, a professor of Greek and Roman Studies, made the case for Archimedes. 'Neither of us succeeded in convincing the other about the chronology of the water screw during the filming of the B.B.C. documentary. We subsequently decided to collaborate on this article, presenting the evidence in a more scholarly fashion and with a focus on the cultural context of invention and innovation in both periods.' The results are intriguing, not only for their bearing on the topic of innovation, of the history of mechanical devices, but also for the play of the argument." This writer concurs wholly with this editorial analysis.

A few quotes from this article (and there are many more which might be sampled):

Page 2: "The precise identification of the inventor of a device or procedure is problematic, since nearly every technological advance is the result of a long accumulation of human experience."

Page 2: "...This problem is compounded for ancient technological innovations, because firsthand documentary records are rare, and historical texts, where they exist, can be unclear, mistaken, and tendentious."

Page 2: "Fortunately, identification of a specific individual inventor is far less important or interesting than an understanding of the historical and cultural context that spawned the invention and fostered its reception."

This is a lengthy and challenging article asking many questions and raising many issues/challenges. I encourage readers to seek it out – as it offers a number of interesting and potentially important arguments and generalities to those seeking to understand our collective heritage! As stated, the writer does not agree wholly with some of the arguments presented by these authors (certainly, this is not a necessary requirement), e.g., I feel individual creativity or contributions is (are) important, and when appropriate, these need to be recognized – there are meaningful examples which can be cited. And in fairness, there needs also to be a thoughtful appreciation of the social, cultural, etc., climate for creative impulses as well as a credible potential for use of the device invented.

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J.M.E.

Ohio Optometric Association, 1902-2002:

In 2002, the Ohio Optometric Association published a document entitled "Ohio Optometric Association Perspectives: Ohio Optometric Association Celebrates One Hundred Years, 1902-2002." On pages 2 and 3 of this 24 page publication there is a list of the presidents of the Ohio Optometric Association from 1902 to 2002. Also listed are the six optometrists from Ohio who served as presidents of the American Optometric Association: J.C. Eberhardt (1903-04), C.M. McDonnell (1910-11), Samuel Brown (1954-55), Richard Hopping (1971-72), Timothy Q. Kime (1984-85), and James R. Scholles (1988-89).

Some excerpts from the timeline given on pages 4 and 5 are the following:

- 1902 – Thirty charter members form the Ohio Optical Association
- 1903 – The first convention of the Ohio Optical Association
- 1906 – Name changed to Ohio State Optical Association; code of ethics adopted
- 1914 – Two-year course in Applied Optics established at Ohio State University in the Department of Physics
- 1915 – Four year degree in optics established at Ohio State, with Charles Sheard named director of the program
- 1919 – Optometry licensure law passed in Ohio
- 1920 – Ohio State Board of Optometry established
- 1985 – Ohio DPA law passed
- 1992 – Ohio TPA law passed
- 1998 – National Optometry Hall of Fame is formed at the EastWest Eye Conference in Cleveland
- 2000 – OOA moves to new office in Worthington, Ohio

Five American Optometric Association Congresses have been held in Ohio: 1910 in Cedar Point, 1917 in Columbus, 1932 in Cleveland, and both 1940 and 1945 in Cincinnati. Pages 7 through 19 of the document contain half-page to one page biographies of some persons notable in Ohio optometry: Charles Sheard, Nelson E. Abrahamsen, Sr., Herbert G. Mote, Glenn A. Fry, Henry Hofstetter, Jack T. Keith, Harold W. Oyster, Warren G. Morris, Ruth P. Morris, Neal Bailey, Lois B. Bing, Frederick W. Hebbard, David Studebaker, James R. Scholles, Timothy Q. Kime, Arol R. Augsburger, Kevin L. Alexander, and Carol Brown. The last few pages discuss and illustrate some documents from the OOA archives and some early twentieth century optometric instrumentation.

Among the items depicted from the archives is the page on which the members of the Ohio Optical Association signed the constitution and by-laws of the organization in 1902. Also shown is the following undated statement which presumably represents a summary of official discussions at an association meeting sometime between 1902 and 1915: "The joint question whether the word optician should be used in the code instead of optometrist. It was finally decided to use optician, this holding out invitation to all interested in the optical business to become members. It was decided best to take in all the opticians and make optometrists of them after. Nor was it deemed wise to borrow

titles or phrases, or pretend to be something which we are not, so the word patient was stricken out and patron inserted.”

This document is available on the world wide web at www.ooa.org/centennial-final2.pdf.

D.A.G.

Web site on Adolf Wilhelm Mueller-Welt:

The contents of a web site (<http://mueller-welt.com/>) discussing the contact lens contributions of Adolf Wilhelm Mueller-Welt (1904-1972) were written by his daughter Mrs. Brigitte Mueller-Welt Caffrey. It opens with the statement: “In 1927, in Stuttgart, Germany, Adolf Mueller-Welt, my father, and scion of generations of artificial glass eye makers produced the first commercially viable and marketable hand-blown, fluidless, glass scleral contact lens.” The author writes that “Adolf was 24 at the time and did his work perfecting the lenses without the benefit of any formal education and without the financial support of his family who thought that his idea of blowing thin lenses that could have the necessary visual correction to improve eyesight was not practicable. Fortunately, his wife, Ruth Raisig, believed in him and used her inheritance from her banker father to further Adolf’s dream and helped him become a true pioneer in the infancy of contact lenses.”

Mueller-Welt applied for a patent in 1928 and it was approved in 1932 (DRP.Nr. 553843). Mueller-Welt’s company continues to operate today in Stuttgart. The web site suggests that “Most likely, it is the longest, continuous contact lens business in the world.”

There are several pages associated with this web site discussing various aspects of the work and family of Mueller-Welt. Included is the English translation of a 1969 testimonial given in celebration of Mueller-Welt’s 65th birthday by Rolf Weinschenk, a Mueller-Welt employee. This document gives a year by year summary of Mueller-Welt’s work in developing and manufacturing contact lenses from 1924 to 1969. Mueller-Welt lived at various times in Germany, Canada, and the United States, beginning and ending his career in Germany. Mueller-Welt received an honorary Doctor of Ocular Science degree from the Chicago College of Optometry on September 22, 1950.

D.A.G.

Early Prints Depicting Eyeglasses:

“Early Prints Depicting Eyeglasses” is the title of an article by Charles E. Letocha and John Dreyfus in the November, 2002, issue of Archives of Ophthalmology (volume 120, number 11, pages 1577-1580). The authors’ abstract states: “Much of the history

of eyeglasses has been gleaned from studies of paintings and prints that illustrate them. A few prints from the first century of printing include spectacles and are reproduced in this article. In addition to showing their form and method of use, these prints also illustrate their symbolic value.”

Eleven such prints dating from 1475 to 1497 are illustrated and discussed in the article. At this time, spectacles were mostly used by presbyopes for reading, and at least ten of the eleven prints show glasses being used for near work. Many of the prints are anachronistic in that some of the subjects depicted wearing spectacles lived before spectacles are thought to have been invented, with even Biblical subjects shown wearing glasses. Reprints of the article can be obtained by writing to author Charles E. Letocha, MD, Ophthalmology Associates of York, 1945 Queenswood Dr., York, PA 17403 (email: cm.letocha@gte.net).

D.A.G.

History of the California Optometric Association:

California Optometry, the journal of the California Optometric Association, recently published the first part of a history of their association (Optometry's Screaming Eagles, Part 1, California Optometry, May/June, 2003, Volume 30, Number 3, pages 13-15). We have received permission to reproduce this fine article here verbatim as it appeared in their journal. The main text of the article, written by Richard Kendall, is introduced by four lead-in paragraphs (in bold on the following pages) by Lawrence Thal, president of the California Optometric Association.

On a warm summer day, Dr. Ren Anelle stopped along side the road to quench his thirst with cool lemonade. As he parked his car, he noticed the van next to him displayed a bumper sticker, "Screaming Eagles." Under an umbrella sat an elderly gentleman also with lemonade. "Were you a Screaming Eagle?" Ren asked. "Yes I was," he replied somewhat perplexed, "How did you know?" "I saw your bumper sticker and I just want to say thank you!" Tears came to the eyes of this old man. No one had ever thanked him before; much less someone who could only have been an infant during World War II. The 101st Airborne Division, the Screaming Eagles, teamed up with the 82nd Airborne Division and the British in Normandy and Holland.

It was at Bastogne that the 101st heroically staved off cold, hunger and the German Army during the Battle of the Bulge. Corregidor, Leyte, Anzio, Salerno and Bastogne, once strange sounding names, are remembered today for World War II

newscasts which told of the courage and the sacrifices of airborne troops on those distant battlefields. Men like Generals Matthew Ridgway, Maxwell Taylor, "Slim Jim" Gavin and Tony McAuliffe, who uttered the now-famous "Nuts" to the Germans at Bastogne - are but a few of the great airborne leaders whose names are indelibly inscribed on the rolls of these elite units.

Optometry has its own elite units with many unsung heroes, many of whom haven't heard the words Ren said this warm, summer day, "Thank you!" Many of optometry's battlefields also seem quite distant, but these leaders of the past and their accomplishments need not be forgotten - their names will be indelibly inscribed on the rolls of optometry's elite units.

This is the first part of a series, "Optometry's Screaming Eagles." It chronicles the founding of the California Optometric Association. Other parts will chronicle the founding of our two schools of Optometry in California and Vision Service Plan.

The California State Association of Opticians (CSAO), later to become the California Optometric Association, had its birth on January 23, 1899 in San Francisco at the Fraternal Hall in the Alcazar Building. A complete organization was formed and officers were elected: President, F.C. Chinn, Sacramento; first vice-president, S.G. Marshutz, Los Angeles; second vice-president, I. A. Beretta, Oakland; and secretary and treasurer, G. L. Schneider, Berkeley.

In the April 1899 issue of *The Optical Journal*, G. L. Schneider wrote to the Editor, "I beg to thank you for the item regarding the first meeting of the California State Association of Opticians in the March *Journal*. All of the opticians in the state are very enthusiastic now, and I think we will have quite a large membership and probably a good representation at the next meeting, which will take place at the Fraternal Hall in San Francisco. We have already had one legislative fight against a medical bill and came out victorious, mainly, however, through the unceasing endeavors of our president, F.C. Chin, of Sacramento." The legislation referred to a bill, supported by physicians, which only permitted MDs to determine a patient's refractive error.

California became the third state to pass legislation regulating the practice of optometry (The first was Minnesota on April 13, 1901 and second, North Dakota on March 4, 1903). On March 26, 1903, Governor George Pardee, MD (an oculist) signed the California State Optometric Practice Act. The Governor's first appointees to the California State Board of Examiners in Optometry were H.S. Cahn, San Francisco; W.H.

Hare, Pacific Grove; and F.C. Chinn, Sacramento. Mr. Cahn was elected president, and Mr. Chinn, secretary.

In one section, the new Optometric Practice Act stated, "Every person before beginning to practice optometry in this state, after the passage of the act, shall pass an examination before said Board of Examiners." In another section, the comment was made, "Every person who is actually engaged in the practice of optometry in the State of California, at the time of the passage of this act, shall, within six months thereafter, file an affidavit in proof thereof with said board, who shall make and keep record of such person, and shall, in the consideration of the sum of five dollars, issue to him a certificate of registration." At that time, persons who practiced optometry at least six months prior to passage of the act were not required to take an examination.

The Los Angeles School of Ophthalmology and Optometry was formed in March of 1904. Marshall B. Ketchum, MD, was the founder of the school, the sole proprietor and teacher. Louis H. Jaques was a graduate of the Class of 1911 and served optometry for seven decades. He was known to many as "Dad" Jaques. Two other lifetime supporters of optometry graduated in 1913. They were Ernest A. Hutchinson and William M. Ketchum, both of whom were to have significant roles in the school's development over the next 40 years.

The California State Association of Opticians experienced a major catastrophe on April 18, 1906 at 5:12 a.m. That was the time of the San Francisco earthquake and fire. All of the association's records were destroyed. That set back, but did not deter the association from moving forward. The association incorporated as the California State Association of Optometrists during the same year. The association conducted its first congress with the delegates giving the authority to the Board of Directors to conduct the business of the association between congresses. This was made possible with the adoption of new bylaws.

Dr. A.J. Cross, who practiced optometry in Visalia during 1876, moved to New York where he became involved with organizing optometrists into a national association (eventually the AOA). He also served as an instructor in the Department of Optometry at Columbia University in New York. In 1926, during the AOA Congress held in San Francisco, Dr. Cross was recognized as the first

optometrist president of the AOA (1900) and for his leadership in establishing an appropriate educational curriculum for optometry. Across the Golden Gate from San Francisco, in the Muir Woods National Monument, stands a redwood tree dedicated to A.J. Cross, the first optometrist to be president of the American Association of Opticians.

In 1911, Dr. George L. Schneider was the second California optometrist to become president of the American Association of Opticians (which, in 1919, became the American Optometric Association (AOA)). He lived in Berkeley and was very involved with the formation of organized optometry in California, having served as COA's first secretary and treasurer.

The University of California, Berkeley, established a School of Optometry as a Division of the Department of Physics in the College of Letters and Science. The curriculum in optometry was established in August 1923 as a result of a permanent committee of the California State Association of Optometrists. The committee spent five years of continuous effort before achieving their goal.

In 1925, the COA House of Delegates mandated the establishment of a Presidents' Council. This was the result of the outstanding leadership in organized optometry of Dr. Harry E. Goodman. Ever since its creation, the Presidents' Council has provided an excellent vehicle for communication between local societies and the association's leadership.

The first issue of the *California Optometrist*, COA's official magazine (presently *California Optometry*), was produced in June of 1932. There have been twelve editors during the publication's lifetime.

William G. Lindsay, OD and Ernest A. Hutchinson, OD were the first. They were followed by Drs. Arthur E. Hoare, Rupert E. Flower, Herbert Kallmann, Richard S. Hubler, Byron Newman, Harry Charm, Kenneth P. Lee, Joseph E. Farrington, Ernest K. Takahashi and Palmer N. Lee.

Edmund F. Richardson, OD was the third California optometrist (following Drs. Cross and Schneider) to be honored by being elected president of the American Optometric Association in 1946. He was active with the Optometric Extension Program Foundation.

The California Association of Optometrists in 1947, by action of the House of Delegates, adopted a change in its name. The new name became the California Optometric Association (COA). This action occurred in conjunction with a similar move by other states to promote uniformity among the names of state associations.

The COA organized the California Optometric Credit Union (COCU) in 1951. The primary purpose for its development was to provide a mechanism for practicing optometrists to invest their money and support younger, newly licensed optometrists. The credit union provided a source for optometrists to borrow funds at a lower rate than banks or other financial institutions. The COCU board of directors was composed of optometrists. In 1996, COCU changed its name to Vision One Credit Union. The credit union now serves optometrists in California and other states.

The National Association of Optometrists (NAO) was formed in 1951. The reason for the formation of this organization was the differences in opinion on how the practice of optometry should be managed. In general, it was a question of professionalism versus commercialism. The American Optometric Association created very specific rules of practice which stated, "Enforcement of the provisions of the Rules of Practice shall be the duty of the various state associations. It is recommended that when a member is doubtful of the ethics or advisability of any action he contemplates, he shall submit a detailed statement to the proper committee of their state association for approval. This committee, if in doubt as to the point involved, shall in turn submit the question to the executive committee of the state association for final opinion. Logically, the trustees of the American Optometric Association will give an opinion if asked by the state association." These rules included: "1) No member shall display any sign containing other than name, profession and office hours; same to be used only on office windows or at entrance to their office. Letters must not be luminous or illuminated, and must not be more than 4" in height for street level and 7" in height for offices above street level. 2) No member shall display eyeglass signs or painted or decalcomania eyes anywhere. 3) No member

shall display his license, diplomas or certificates in such a manner as to be seen and read from outside his office." Due to the restrictive language of many sections in the AOA Rules of Practice, many COA members joined the NAO.

In 1954, COA requested all local optometric organizations change their name from "association" to "society." Today, COA is composed of 25 local optometric societies and two student societies.

One of the first organizations designed to provide vision care services to union members was the Joint Council

on Vision Care in California. A group of visionary optometrists formed California Vision Services (CVS) in 1955. In 1975, the name of CVS was changed to Vision Service Plan (VSP). During 1986, the California Optometric Association gave up its ownership interest in VSP in anticipation of a possible ruling by the Federal Department of Justice. The concern was that COA, with its great number of VSP optometrists, could in some way control the fee structure of VSP.

Rupert E. Flower, OD from Visalia became the fourth California optometrist to become president of the American Optometric Association in 1956. Visalia is the only community in California to have had two AOA presidents, Drs. Fowler and Cross.

The California Attorney General, in 1960, offered a legal opinion permitting optometrists to perform tonometry. This action was one of the first events which started California optometry on a course towards its present level of providing eye health care.

The Public Vision League (PVL) was incorporated in 1962. It was originally formed to provide funds for legislative and legal activities in California. Due to changes in laws dealing with legislative contributions, it was necessary for COA to form a political organization in 1974. It was at this time that Cal-OPAC was established. PVL has mandatory dues and the funds are used for legal activities that have an effect on optometrists. Cal-OPAC funds are used for political activities.

In 1964, Charles E. Seger, OD from San Luis Obispo was the fifth Californian to become AOA president. Dr. Seger was AOA's forty-third president. At his inauguration, he observed that optometry seemed to thrive on adversity and gain strength from it. He pointed out, however, that the profession now had many groups and organizations and that all must work toward common goals, taking care not to dilute each other's efforts. The future would bear out the importance of this admonition.

Unification occurred in 1964 between COA and NAO after a great deal of deliberation. There were great leaders on both sides of the alliance. The final results of the combination of the two optometric organizations proved beneficial to all optometry by creating uniformity in legislative activity and other programs.

For many years, the COA office was located in Sacramento at 926 J Street. COA purchased an office with the California Credit Union in 1968. It was located at 7120 East Parkway in Sacramento. After seven years of traveling back and forth from the office and the State Capitol, COA sold the property in 1975 and moved back

downtown. The office was moved to the Elk's building on the corner of 11th and J Street. In 1991, the office relocated to 12th and H Street. In 2000 COA purchased its current building at 2415 K Street.

Richard L. Hopping, OD from Dayton, Ohio, was installed as the sixth Californian to be president of AOA in 1971. In predicting what lay ahead Dr. Hopping stated, "Today we are in a transition from considering optometry as an individual affair to understanding optometry as a community affair." Soon after his tenure on the AOA Board of Trustees he accepted the position of President of the Southern California College of Optometry.

Legislation enacted during 1975 permitted optometrists to hire ophthalmologists, as well as

allowing ophthalmologists to hire optometrists.

Diagnostic pharmaceutical agents (DPA) legislation was adopted in California during 1976. The legislation permitted optometrists the use of specific mydriatics, cycloplegics and topical anesthetics.

The seventh COA member to become president of AOA was Charles W. McQuarrie, Jr., OD from Lancaster. Dr. McQuarrie commented during his inaugural address on July 9, 1977, "The strength of optometry lies in unity." The new president also emphasized the importance of communicating optometry's role to other professions and of achieving a better understanding of the role of other professions as they relate to better care of the patient.

Gerald J. Easton, OD was the eighth member of COA to be elected president of AOA. Dr. Easton, from Coronado, was elected president in 1985.

Vision West, Inc. (VWI), "An Ophthalmic Management Group," was incorporated in 1988 by the COA. This was accomplished after extended review of various types of buying groups. VWI has proved to be of tremendous financial benefit to COA and the optometrists in California.

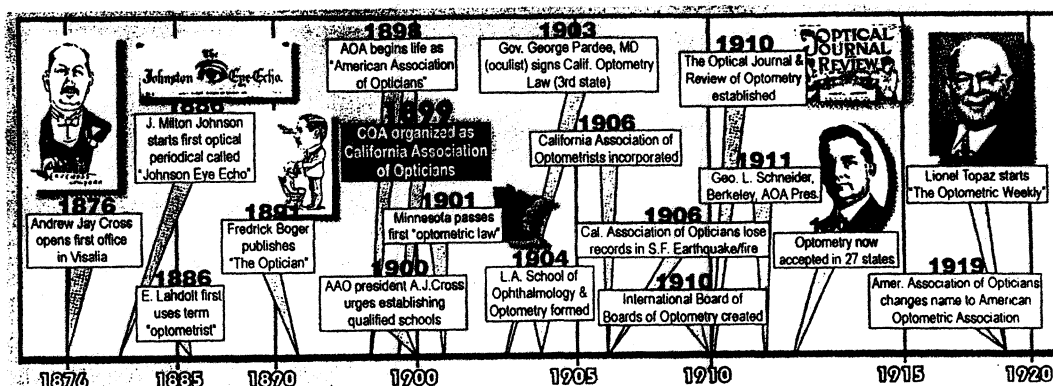
In 1989, mandatory optometry continuing education was established by legislation. Prior to 1989, the California State Board of Optometry had the legislative option to mandate continuing education; however, the board elected not to enforce this option.

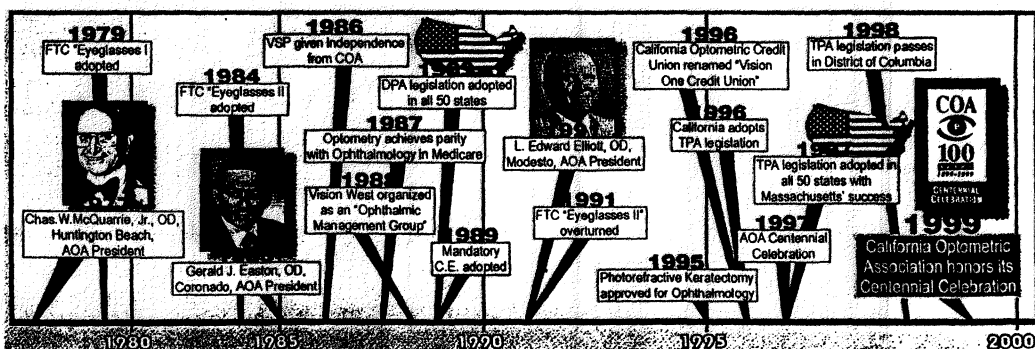
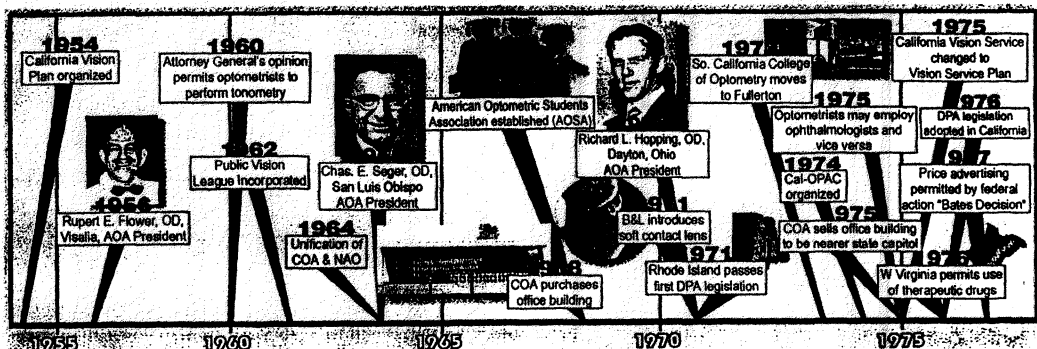
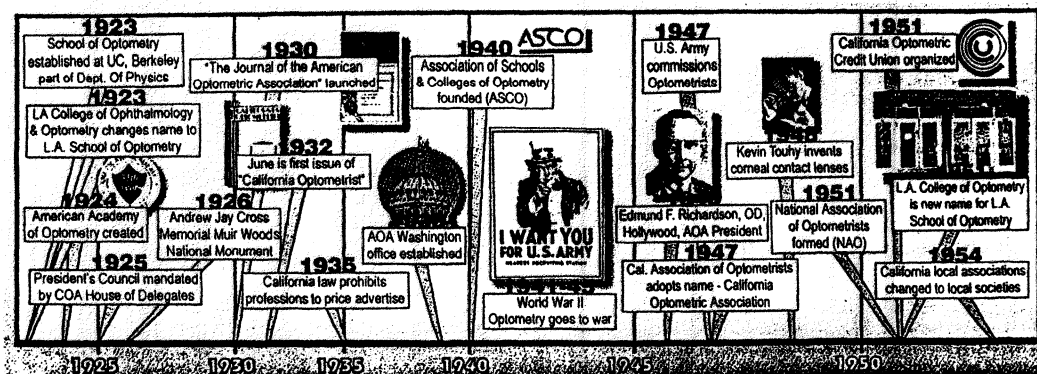
The ninth president of AOA from California was L. Edward Elliott, OD. Dr. Elliott of Modesto had been very active in legislative activities in California prior to being elected AOA president in 1991.

California optometrists were granted the privileges to utilize therapeutic pharmaceutical agents in 1996. This was achieved by the efforts of many COA members. This initial therapeutic legislation did not include the scope of therapeutics that optometrists in the state desired. Because of this, TPA legislative enhancement activity has been an ongoing activity within California.

On January 23, 2000, the California Optometric Association celebrated providing the members of the association "One Hundred Years" of service. All of the past activities of the association have been the result of teamwork. There have been many leaders of the association over the years; however, a leader cannot be successful unless there is a quality team of players. Throughout the history of COA, there have been strong leaders, our "screaming eagles," and many members who have been strong players. When one looks back and learns what has occurred since January 23, 1899, at the Fraternal Hall, in the Alcazar Building in San Francisco, one realizes the future is ours to create; it depends upon how we plan the next one hundred years.

- Taken from Dr. Richard Kendall's treatise, "The California Optometric Association, 1899-2000."





Managing Editor and Contributing Editor: David A. Goss (School of Optometry, Indiana University, Bloomington, IN 47405, U.S.A.; email: dgoss@indiana.edu)

Contributing Editors: Douglas K. Penisten (College of Optometry, Northeastern State University, Tahlequah, OK 74464, U.S.A.); Jay M. Enoch (School of Optometry, Mail code 2020, University of California at Berkeley, Berkeley, CA 94720-2020 U.S.A.; email: jmenoch@socrates.berkeley.edu)