

scientific work. It was to this aspect of ophthalmology that he gave most of his time and to which he made many notable contributions. His first important paper was "Über die eitrig metastatische Ophthalmie (Graefe Archiv 1894,40,III: 1-129) [Suppurative



Metastatic Ophthalmia],” This paper is a model of what a completed investigation should be. It gives a detailed picture of the disease, the bacteriological findings, and the pathological changes, based upon experimental and clinical data, and remains to-day the classical paper on this subject. It was awarded the Graefe Prize by the Heidelberg (now German) Ophthalmological Society. This was followed in 1895 by the “*Etiology of the Serpiginous Ulcer of the Cornea*,” in which he showed the important role played by the pneumococcus in the production of this condition. Then in 1896 came the discovery of epidemic pneumococcus conjunctivitis and diplobacillary conjunctivitis “*Beiträge zur Aetiologie der Bindehautentzündungen. Ueber chronische Diplobacillenconjunctivitis*. (Ber. Ophthal. Ges. Heidelberg 1897,25:140-155) [simultaneously with Victor→Morax]. In 1902, based upon the enormous experience acquired in Rostock, he published “*Das Trachom*,” an exposition of all the various manifestations and complications of this plague and the best means of dealing with it, both individually and as a social question. The humanitarian and philanthropic aspect of the man was shown first in 1905 when he used as his subject for a Rectoral address “*Blindness and Care of the Blind*.” In this subject he showed a continuous interest and always used his great influence to bring about an amelioration of the conditions of life for the blind in all social levels. From 1901 onwards he became interested in tuberculosis of the eye and many articles on this subject came from his laboratory and in 1909 the description of the condition “*Periphlebitis retinae tuberculosa*.” In 1907 appeared the book “*Bakteriologie in der Augenheilkunde*” (Ophthalmological Bacteriology) which was translated into English in 1908 by MacNab. In

1908 he published in the French language his work “*Le catarrhe printanier*.” In 1909 appeared the “*Lehrbuch der Augenheilkunde*” (Textbook of Ophthalmology) which went through many editions, and has been translated into many languages. The number of papers and books published under his own name amounts to nearly 200 and besides this there are a larger number which, emanating from his clinic and laboratory, owe their inspiration to him, but bear the names of those who worked under him. In 1899 he became associated with Zehender in the editorship of the *Klinische Monatsblätter für Augenheilkunde*.” In the following year Zehender retired and this important publication was carried on by Axenfeld alone from that time. In 1915 he assumed jointly with Elschning the editorship of the big Graefe-Saemisch “*Handbuch der Augenheilkunde*” and in that year appeared the first edition of the “*Operationslehre*” to be followed in 1922 by a second edition. In 1898-1928 appeared the volumes “*Pathologie des Auges*” as part of the “*Ergebnissen der allgemeinen Pathologie*” of Lubarsch and Ostertag. Axenfeld was the recipient of many honours, both in his own and foreign countries. Besides many ribbons and stars of knightly orders, the University of Freiburg made him first Dean of Faculty of Medicine and later, Rector of the University. In 1925 he became President of the German Ophthalmological Society and he was German representative on the League of Red Cross Societies for the Prevention of Blindness. He was an honorary member of many foreign medical societies and in 1929 was awarded the Lucien Howe gold medal of the American Ophthalmological Society for his “Great services to Ophthalmology.” He had previously received the Graefe Medal of the German Ophthalmological Society. In 1928, he and →Wessely represented Germany at the meeting of delegates which arranged the 1929 International Congress at Amsterdam. BJO 1930,14:537-539. [GM 5938;5941] JPW

Ayscough, James (d. ca. 1762) British, 18th century London spectacles- and microscope-maker. He wrote for the layman “*A short account of the eye and nature of vision, chiefly designed to illustrate the use and advantage of spectacles*” of which the fourth edition appeared in London 1755. Albert

Azuma, Ikuo (1930-) Japanese Ophthalmologist, Professor Emeritus of Osaka Medical College. He is a graduate of Osaka University in 1955 and studied Ophthalmology under

Prof. →MIZUKAWA Takashi: he received the degree Doctor of Medical Sciences from the University in 1960 (thesis: *Studies on the hypotensive mechanism of an anti-glaucoma agent (acetazolamide)*). Folia Ophthalmol. Jpn. 11: 66, 1960). He served as the Professor and Chairman of the Department of Ophthalmology of Osaka Medical College from 1974 to 1999. During his tenure he served as the Director of the Hospital in 1988-1992, and after retirement he now serves as a full-time Member of the Executive Council of the College. His interest in research has been glaucoma and he organized the First Congress of the Japan Glaucoma Society as the President in 1989. He also received the *Suda Award* from the Society in 1994. He has written 68 books and 352 articles that include "Diagnostic problems in glaucoma, J. Jpn. Ophthalmol. Soc. 79:1687, 1975" and "Progress in drug therapy of glaucoma, J. Jpn. Ophthalmol. Soc. 97:1353, 1993": the latter paper was delivered as the Society's Award Lecture at the 97th Congress of the Japanese Ophthalmological Society. He is also a member of the Glaucoma Society of the International Congress of Ophthalmology since 1982. He also served as the President for the First Congress of the Japanese Society of Ophthalmic Surgeons (1978), 28th Congress of the Japan Contact Lens Society (1985) and 50th Congress of the Japanese Society of Clinical Ophthalmology(1996). He is the Chairman of the Board of Directors of the Japan Contact Lens Society since 1988. (Osaka Medical College, 2-7 Daigakumachi, Takatsuki, Osaka, 569-0801, Japan. e-mail: iazuma@poh.osaka-med.ac.jp, phone 81-726-84-6228, fax:81-726-82-0995, (SM)

B

Baas, Johann Hermann (1838-1900). German. Medical historian. He received his Medical degree in Giessen in 1860. Became general practitioner. Baas wrote several medical historical books of which "*Grundriss zur Geschichte der Medicin*" Stuttgart 1876 (Sketch of the History of Medicine) became famous. An English translation was published in New York 1889. He wrote a few brief ophthalmologic articles, but numerous passages on the history of ophthalmology in his above mentioned book. American Encyclopedia of Ophthalmology, vol.2, pp.729. [GM.6389.]

Baas, Karl (1866-1944). German ophthalmologist. He wrote: *Das Gesichtsfeld*, Stuttgart 1896 and *Die Seh- und Pupillen-Bahnen* Breslau 1898 (in: H.→Magnus *Augenärztliche Unterrichtstafeln*). Albert

Babbage, Charles (1792-1871)
English mathematician.
MA.Peterhouse, Cambridge 1817. Co-founder of the Astronomical Society. Lucasian professor of mathematics Cambridge 1828-39. Before →Helmholtz made discovery which could have lead to the invention of the ophthalmoscope. He authored "*Passages from the life of a philosopher*" London 1864. Concise Dictionary of National Biography (Oxford 1901). [GM 5874]; Albert; Arch Ophthalmol 1997,115:1456-1457; JAMA 1902,9:549-552.

Bach, Ludwig (1867-1912) German ophthalmologist. Bach was assistant to Julius von →Michel at Würzburg from 1891-1900 and succeeded to →Hess at Marburg University in he autumn of 1900. Bach became distinguished for his works on bacteriology of the eye, the reactions of the pupil and malformations of the eye. He published with R. Seefelder: *Atlas zur Entwicklungsgeschichte des menschlichen Auges*. Leipzig/Berlin, Engelmann,1911-1914. The Ophthalmoscope, 1912, p.424. JPW



Charles Babbage
(Daguerreotype by Antoine Claudet)



Reconstruction of Babbage's Ophthalmoscope (1847)
[Courtesy Prof. Remky Munich]



Roger Bacon

Bacon, Roger (1214-1294) English philosopher and scientist. Bacon was educated at Oxford and the University of Paris, and joined the Franciscan order in 1250. In a period of eighteen months during 1266-1267, he produced the seminal medieval scientific works *Opus majus*, *Opus minus*, and *Opus tertium*. Bacon stressed the importance of experiment in the study of nature, and the use of mathematics in astronomy and physics. In his writings on optics he stated the laws of reflection and refraction. He wrote "*Perspectiva*" Francofurti 1614; "*The cure of old age, and preservation of Youth*" (2 vols.) London 1683; *Opus majus ad Clementem quartum nunc primurn edidit S. Jebb*. Londini 1733. Concise Dictionary of National Biography (Oxford 1901); American Encyclopedia of Ophthalmology, Vol.2, pp.747-50; Albert

Bacqué, Joseph (late 18th-early 19th cent.,) of Bordeaux, France, was professor of anatomy and surgery, and chief surgeon, at the Hôtel-Dieu de Saint-André. He wrote: *Considérations et observations médicales sur le paralysie du nerf optique et de la rétine* Montpellier, c.1812. Albert

Badal, Jules (1840-1929) French ophthalmologist born in Salers, France. He received his M.D. at Strasbourg in 1864, and from 1878 taught ophthalmology at the University of Bordeaux after having been Professor of ophthalmology in Paris. His was particularly interested in refraction, accommodation, and generally in physiological optics. He authored : «*Clinique ophtalmologique.*» Paris 1879 and in 1881: *Leçons d'ophtalmologie-Memoires d'optique physiologique*. Badal also invented or altered numerous, partly experimental ophthalmic instruments. He was recipient of the Prix Barbier (2000 Francs) from the Faculty of Medicine in Paris. JPW

Bader, Charles (1825-1899), was a German ophthalmologist who settled in London after the political disturbances of 1848. He became an ophthalmic assistant surgeon at Guy's Hospital. According to Hirschberg, Bader introduced the ophthalmoscope in England. Bader wrote: "*The natural and morbid changes of the human eye and their treatment.*" (2 vols.) London 1868. Albert

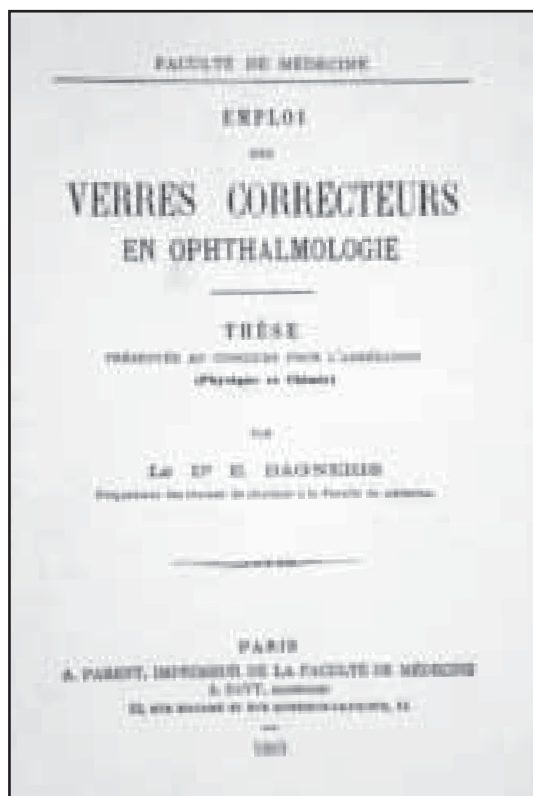
Badrinath, Sengamedu Srinivasa (1940-) Indian Ophthalmologist, Chairman of Medical Research Foundation and President of Vision Research Foundation, Chennai, Professor of Ophthalmology, C.U. Shah Postgraduate Training Center. He graduated from Madras University in 1963, studied in Canada and received F.R.C.S. in 1969 and in the following year he received the Diplomate of the American Board of Ophthalmology. He is a Fellow of the National Academy of Medical Sciences, India, since 1995. He has served as Consultant Ophthalmologist to H.M.Hospital Madras (1970-1972), Vijaya Hospital Madras (1972-1978) and Honorary Consultant Ophthalmologist, Voluntary Health Service Medical Center, Madras (1970-1977). He specializes in vitreo-retinal surgery, and published 70 scientific papers in National and International Journals and wrote many books, e.g. "*Anterior segment reconstruction in: Textbook of Ophthalmology*, by H. V. Nema". He chaired many research groups and received 37 Honor Awards during 1980-1998. Some examples of his guest orations are the 32nd Annual Founder Memorial Lecture at Shriram Institute for Industrial Research Delhi, entitled "*Ophthalmic Research in India - The present and the future*" in 1996 and "*Prevention of Blindness - Role of Physicians*" at the Vivekananda Institute of medical Sciences In 1996.(18 College Road, Chennai 600-006, phnen: +91-44-826-1265, fax: +91-44-825-4180, e-mail: chairman@sankaranethralaya.org) (SM)

Badtke, Günther (1910-?) German. Lecturer of Ophthalmology 1942-45 at Innsbruck(Austria), Professor & Chair Humboldt University Berlin 1953-54. Professor & Chair University of Halle(former German Democratic Republic) 1955. Graefe Prize of the German Ophthalmological Society 1963. He wrote: "*Die normale Entwicklungsgeschichte des menschlichen Auges*" 1958 ; "*Die Missbildungen des menschlichen Auges*" 1961. As an ophthalmologist Badtke specialised in embryologic teratologic problems published between 1940 and 1963 in Graefe's *Archiv für Ophthalmologie* , *Klinische Monatsblätter f. Augenheilkunde*, *Zeitschrift f. Anatomie* and others. Kürschners Gelehrten- Kalender 1966, p.64.

Baerens, Bernhard Friedrich (1795-1863) German physician of Riga. Baerens received his M.D. at the University of Tübingen and afterward became town physician in Riga,

where he founded an ophthalmological clinic. Baerens describes in his inaugural dissertation (*Dissertatio inauguralis sistens systematis Lentis crystallinae monographiam physiologico-pathologicam* Tübingen 1819.) the physiology and pathology of the crystalline lens. This monograph was also included in Julius→Rudolf *Scriptores ophthalmologici minores* (1826-1830), a collection of important monographs of the early nineteenth century. Albert

Bagley, Cecil Hopkins (1893-1961) American ophthalmologist. Bagley was born in Bagley, a small community in the vicinity of Belair. His father was a prominent physician in Harford County and his brother, a noted brain surgeon was for many years head of the Department of Neurosurgery at the University Maryland. Dr. Bagley received an A.B. degree from the Johns Hopkins University in 1917, and the degree of Doctor of Medicine from the Johns Hopkins University School of Medicine in 1921. Following his graduation from medical school, he had four years of residency training in the Department of Surgery the Johns Hopkins Hospital. During this period of training he served under Dr. William Halstead and Dr. John M.T. Finney general surgery. He also worked with Walter Dandy in neurosurgery and Dr. Staige Davis in plastic surgery. 1925 when Dr. William H. Wilmer came to the Johns Hopkins Hospital he expressed a desire to have as his first resident someone who was thoroughly trained in general surgery. For this reason he selected Dr. Cecil Bagley, who was then a resident on the surgical house staff, to be his first resident in the Wilmer Ophthalmological Institute. After the completion of his residency, Dr. Bagley entered the private practice of ophthalmology in Baltimore. He rapidly acquired a large following of interesting patients.



Bagneris, E. (?-?) French lector in physical sciences, active in the second half of the 19th century. He authored as his professoral thesis: "*Emploi des verres correcteurs en ophtalmologie.*" Paris 1883 (published the same year as a book).Albert.JPW

Bahr, Gunnar O. A. von (1907-1997) Swedish Ophthalmologist. He was qualified in medicine at Uppsala and was awarded the Doctorate of Science in 1936. He passed his ophthalmological education at Uppsala and was Professor of Ophthalmology 1952-1979. Among his scientific contributions can be noted; the development of tetanic cataract, the physiology of corneal thickness (*Measurement of the thickness of the cornea.* Acta Ophthalmol. 26: 247, 1948, *Corneal thickness. Its measurement and changes.* Am. J. Ophthalmol.42: 251, 1956) and the significance of optical aberrations on vision (Acta Ophthalmologica 23: 1, 1945). Von Bahr had a lively interest for education and was the editor and author of a Nordic *Textbook of Ophthalmology*, he was also the promoter of Nordic courses in postdoctoral education. He was an active member of several international associations and was honoured with the presidencies of the *Concilium Ophthalmologicum Europaeum* 1960-64, the *Concilium Ophthalmologicum Universale* 1962 and the *Association for Prevention of Blindness* 1970-1974.(by L. Berggren)

Baiardi, Pietro (1862-1922) Italian ophthalmologist. He finished his medical course at Turin, and took up the study of Ophthalmology in Reymond's clinic. Later he was Professor at Genoa, and in 1911 was called to succeed →Reymond at Turin. He contributed numerous writings

on different subjects of Ophthalmology. Much of his early work dealt with problems of Physiologic Optics, including some important work on the axis in astigmatism. In considering cataract operations with reference to the postoperative astigmatism produced, he decided that the most advantageous method was the linear extraction of Albrecht von →Graefe. In experimental pathology he was among the first to successfully transmit trachoma from man to the apes. In the field of therapeutics he demonstrated that mercury could be recovered from the intraocular fluids after local applications. His work on the microscopic examination of the conjunctival vessels during life, was an early forerunner of the recent work with the slit lamp. He showed minute changes of these vessels in diabetes, arteriosclerosis and nephritis. He was a skilful operator and made important contributions to operative technic. He was the first to propose peripheral iridotomy in

cataract operations. The method which he finally decided upon as ideal, however, was his subconjunctival method of extraction. AJO 5:842

Bailey, Pearce (1902-1976) American neurologist, first director of the National Institute of Neurological Diseases and Blindness at the National Institutes of Health. Bailey received his A.B. from Princeton University in 1924; an M.A. degree in psychology from Columbia University in 1931; and a Ph.D. two years later from the University of Paris (Sorbonne). Bailey's psychological studies with the nervous system further encouraged his interest in medicine, and in 1941 he graduated from the Medical College of South Carolina and was certified by the American Board of Psychiatry and Neurology in 1947. He served as Chief Resident Physician of Bellevue Hospital's Neurologic Service, New York, 1942 to 1944; was appointed Commander, MC, USNR, and served as chief of the Neurologic Service, Philadelphia Naval Hospital, 1944 to 1946. He joined the Veterans Administration in Washington, D.C., in 1946 and became director of the newly established National Institute of Neurological Diseases and Blindness, a position he held for eight years. In 1959 he went to Antwerp, Belgium, to be director of the Institute's International Neurological Research Program, where he coordinated its programs with those of the World Federation of Neurology, the organization he had jointly founded two years earlier. Three years later Dr. Bailey became special assistant to the director of the NINCDS as chief of the Institute's Inter-American Activities, with offices in San Juan, Puerto Rico. There he worked with the University of Puerto Rico and coordinated neurological programs in Latin America. He retired in 1971. Bailey was the author of many papers in the neurological sciences. Many related to such neurological disorders as epilepsy, spinal cord injury, muscular dystrophy, multiple sclerosis, and stroke. He was particularly interested in the rehabilitation of neurology patients, in the state-of-the-art of neurology, and in famous neurologists. He wrote several biographies and translated from the French Guillaumin's biography on J. M. Charcot (1825-1893), the father of modern neurology. AJO 1976,82:510-511

Bailey, Samuel (1791-1870) Briton of Sheffield, England, writer on philosophical topics, was largely self-educated. He inherited the family cutlery business, but devoted most of his life to literary pursuits, writing on politics, economics, and especially the nature of human thought and perception. In optics, he wrote, "*A review of Berkeley's theory of vision, designed to show the unsoundness of that celebrated speculation.*" London 1842. Bailey maintains that we have a direct perception of external objects which cannot be analyzed into a complex process. (Albert)

Bailey, Walter (1529-1592) *see* Baley

Bailliart, Paul (1877-1969) French ophthalmologist. Schooled at Besancon (1884-95) he entered the military medical school at Lyon, presenting his medical thesis in 1900 (*Traitement Chirurgical de la Myopie en particulier par la Suppression du Cristallin*) and acted as an army surgeon from 1902 to 1907 when he went to Paris and initially worked with Morax; thereafter he had a distinguished professional career in that city. His contributions to the whole of ophthalmology were widespread; and he produced three books of great merit: the *Traité d'Ophthalmologie* 8 vols. (1939), with Magitot the *Manuel d'Ophthalmologie* (1950), and *Les Affections de la Rétine* (1933). It was perhaps in the retina that his chief interests lay and his technique of ophthalmodynamometry brought him fame throughout the specialty. He was also interested in history and to his credit wrote two books on this subject. But it was his wide international relations and his personal qualities that constituted his greatest influence on ophthalmology. A member of a host of ophthalmological societies he was personally known to most ophthalmologists of his time. BJO 1970,54:72

Baird, James Mason (1903-1966) American ophthalmologist born in Columbus, Georgia. Baird attended Emory University and was graduated from University of Georgia School of Medicine in 1927. He interned at University of Georgia for one year and was chief surgical resident at Duval County Hospital at Jacksonville, Florida, for one year. He served his residency in ophthalmology at Wills Eye Hospital in Philadelphia from 1930 to 1932, and was associated with Grady Clay from 1932 to the time of Dr. Clay's death in 1946. Baird was certified by the American Board of Ophthalmology in 1937, and elected to membership of the American Academy of Ophthalmology and Otolaryngology in 1938.

He was a Fellow of the American College of Surgeons and of the American Academy of Ophthalmology and Otolaryngology of which he was ex-vice president. He also served on the American Board of Ophthalmology as associate examiner for a number of years. He was a member of the American Ophthalmological Society, American Medical Association, Pan-American Association of Ophthalmology, National Medical Foundation for Eye Care, Southern Medical Association, Southeastern Surgical Congress, Medical Association of Georgia, Atlanta Ophthalmological Society (ex-vice president), Georgia Society of Ophthalmology and Otolaryngology, and the Fulton County Medical Society. Baird was an assistant professor of ophthalmology, Emory University School of Medicine. He was a member of the staff at Piedmont Hospital, Emory University Hospital and Grady Memorial Hospital. He was consultant for National Society for Prevention of Blindness for many years. He was a former member of the American Orthoptic Council. In 1934, Drs. Clay and Baird were the first in this area to establish orthoptics as part of their office routine. He was a member of Kappa Alpha, Alpha Kappa Kappa, Alpha Omega Alpha. During World War II, he served in the Pacific as Lt. Commander in the United States Navy. He was the author of several articles on different aspects of ophthalmology, among them "*Restoration of the orbit*," "*X-ray therapy of corneal ulcers*," "*Cataract extractions*" "*Correction of strabismus*," and "*Interpretation of the hypertensive fundus*." He was recognized as a superb ophthalmic surgeon, being especially expert in cataract extraction. AJO 1966,62:172-173

Baker, William Henry (1857-1898) American. General practitioner in Lynchburg, VA., whose practice was largely focused on ophthalmology. Studied medicine at the University of Maryland and at the South Carolina College of Medicine. Wrote a few articles on ophthalmology, but was better known for his skill as an operator. American Encyclopedia of Ophthalmology, 2, p.865.

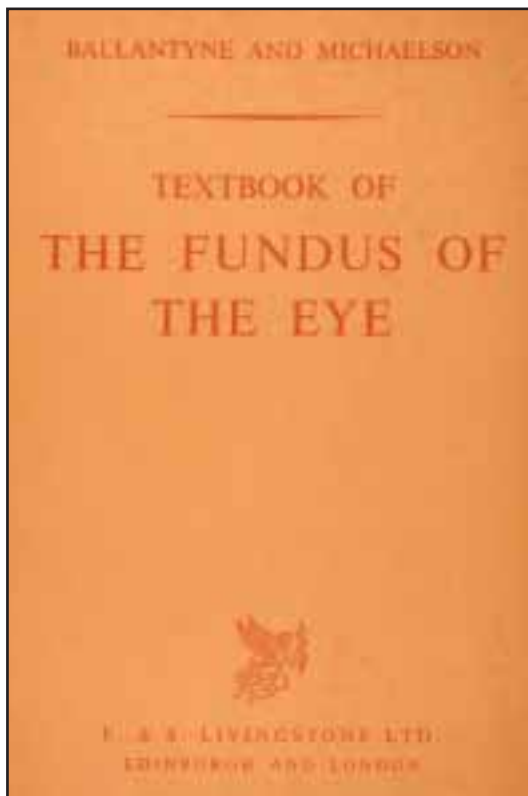
Balakrishnan Vivian (1961-) Singaporean Ophthalmologist, Associate Professor at the National University of Singapore's (NUS) Department of Ophthalmology, Medical Director of the Singapore National Eye Center, Departmental Director, Department of Ophthalmology, National University Hospital and Head of the SNEC Paediatric Ophthalmology Service at the KK Women's and Children's Hospital. He graduated from the National University of Singapore in 1985 with a Bachelor of Medicine and Bachelor of Surgery. He received his Master of Medicine (Ophthalmology) from the National University of Singapore; and was admitted as Fellow of the Royal College of Surgeons of Edinburgh. He obtained a 2-year paid position as Senior Registrar in Moorfields (London) in 1993 where he received subspecialty training in paediatric ophthalmology under the tutelage of Dr John Lee, Head, Paediatric-ophthalmology and Strabismus Service at Moorfields Eye Hospital, and Dr. David Taylor at Great Ormond Street Hospital for Sick Children. His other appointments are : Member of the National Committee on Ophthalmology appointed by the Minister of Health; Member of the Advisory Committee on Ophthalmology to advise the Ministry of Health on matters relating to Ophthalmology; Member of Ethics Policy and Review Committee of the Singapore Medical Association; Member of the Council of Singapore Medical Association: Board of Director of the National Library Board; Member of the Subject Committee of the National Singapore 21 Committee advising the Singapore government on selected strategic direction for the next decade; Member of the Singapore Broadcasting Authority Appeals Advisory Committee advising the Minister for Information and the Arts on broadcasters' appeals; Member of the Committee on Family appointed by the Minister for Community Development to propose policies and programs that help strengthen families; Member of the Expert Panel for Drug Evaluation, Ministry of Health, Singapore since 1998. He holds the rank Major in the Military and is the Commanding Officer of the 2 Combat Support Hospital in 1999. Has been invited to lecture and conduct teaching programs in Vietnam, Nepal, Australia, China and the Netherlands. Also represented Singapore Ministry of Health at the WHO meeting on Prevention of Blindness Program in Fukuoka in October 1998 to discuss eye care programs for the elderly. Currently the principal investigator for 3 myopia clinical research studies in children covering i) *Atropine* ii) *Multifocal Spectacles Lenses* and iii) *Pirenzepine Ophthalmic Gel*. His research interest also covers clinical applications for Botulinum Toxin in Ophthalmology, Multimedia Computer Aided Education, Excimer Laser Photorefractive Keratectomy clinical trials, Vector analysis of astigmatism post

pterygium and cataract surgery, interpretation of automated perimetry using artificial neural networks etc. Published 24 papers in international, regional and local refereed journals. The most recent publications were "*Neisseria Meningitis Endogenous Endophthalmitis: Case Report and Literature Review*, Journal of Paediatric Ophthalmology and Strabismus May/June 1999, Vol 36 No.3 and "*Botulinum Toxin A in the Treatment of Sixth Cranial Nerve Palsy at the Singapore National Eye Center*, Singapore Medical Journal 1999, Vol 40(6): 405-409. He is a recipient of the 1999 Distinguished Service Award of the Asia Pacific Academy of Ophthalmology (APAO) and the 1980 Singapore President Scholarship. (Associate Professor Vivian Balakrishnan, Singapore National Eye Center, 11 Third Hospital Avenue, Singapore 168571, Phone (65) 3228-323, Fax: (65) 2277291, e-mail: vivianbala@nus.edu.sg) (SM)

Baley (also BAYLEY and BAILY), Walter (1529-1592-3) British physician born in Dorset, England, and educated at Oxford University, where he became a professor of medicine in 1561. He enjoyed a large practice, and was made physician to Queen Elizabeth. He wrote: "*A work touching the preservation of the sight*" London, no date, and "*A briefe treatise touching the preservation of the eie sight, consisting partly in good order of diet, and partly in use of medicines.*" London 1586. Concise Dictionary of National Biography (Oxford 1901), American Encyclopedia of Ophthalmology, Vol.2, pp.864. Albert, GM 5819

Ball, James Moores (1863-1929) American ophthalmologist. Ball was born in West Union, Iowa, and died in Saint Louis. He was graduated in medicine from the university of Iowa and continued his studies in the United States and in Europe. Teaching occupied much of his time as a young man, he having been professor, of ophthalmology in the old College of Physicians and Surgeons in Saint Louis. Undoubtedly he was best known because of his *Modern ophthalmology* 1904, 6th edition 1927, an excellent and comprehensive textbook. Countless hours were spent in the compilation of this work and it was a subject dear to his heart. He was wont to speak of it affectionately as "the book", and it was hard to interest him in other things at such times as the publishers were demanding a new edition. Early in his work the historical side of medicine appealed to him, and his studies made him an authority on this subject and enabled him to enrich medical literature by such contributions as "*Andreas Vesalius, 'reformer of anatomy'*", published for private distribution in 1910, and "*The sack-'em-up men*" published in Edinburgh 1928 (reprinted 1989 in New York under the title: *The Body Snatchers: Doctors, Grave Robbers And The Law*). An almost completed work "*Art and anatomists*" was occupying his attention at the time of his death. As a natural outgrowth of his love for antiquity he developed a taste for collecting books and specimens related to ophthalmology. He donated his extremely valuable collection of ophthalmological material to, the Army Medical Museum in Washington, where it is housed in a room known as the James Moores Ball room, devoted entirely to this purpose. Books, charts, specimens, plates, letters and autographs filled that room. Rare old books were his especial hobby, and he donated several hundred of these to the Saint Louis Medical Society shortly before his death. He received many honors during his life but of these he valued most his election as an honorary member of the Ophthalmological Society of the United Kingdom. AJO 1929,12:424-426; JPW

Ballantyne, Arthur James (1876-1954) Scottish ophthalmologist, who was born and educated in Glasgow where he remained throughout his long professional life. He graduated M.B., Ch.B. at the University of Glasgow in 1898 and thereafter became the first house physician to Dr. T. K. Monro, who had just been promoted to the senior staff of the old Glasgow Royal Infirmary. He maintained his medical associations with T. K. Monro, and John Cowan all through his active clinical years. His term as house surgeon was spent with John Barlow, who was also an extramural teacher of physiology. Such dual appointments were possible in those less highly specialized days, and Ballantyne continued this tradition by teaching physiology in Anderson's College; his predecessor in this appointment was another ophthalmic surgeon, Ernest Thomson. At the end of the 19th century the University of Glasgow contained within its walls many very remarkable people. John Caird. Gilbert Murray (the sole survivor), Sir Henry Jones, Lord Kelvin, Sir William Gairdner, Sir William Macewen, and George Buchanan, who had been a civil surgeon to the Army in the Crimea, were among the men whose influence remained potent



throughout Ballantyne's life. On the centenary of the discovery of the ophthalmoscope he remarked that he had celebrated the jubilee of his own use of the instrument several years before. His first ophthalmic teacher was Thomas Reid, who had been a pupil of William Mackenzie, but the greatest and most far-reaching influence was that of George Coats. In 1901 Ballantyne graduated M.D. and the subject of his thesis was *contusion injuries to the eyeball*; in 1906 he was elected to the Fellowship of the Royal Faculty of Physicians and Surgeons of Glasgow. His first papers, written in collaboration with Ernest Thomson, were presented as card specimens to the Ophthalmological Society of the United Kingdom, which he joined in 1903. A long review article on the pupil was published in the Ophthalmoscope in 1909 and a most detailed article upon the pulsation of the retinal arteries in 1913. As a young man Ballantyne became a member of the British Medical Association and the Royal Society of Medicine; he lived to become President of the appropriate section of both these national bodies as well as President of the Ophthalmological Society of the United Kingdom. He was a foundation member of the Oxford Ophthalmological Congress and the Scottish Ophthalmological Club of which he was also President. This Club, which originated in the drawing room of his friend Ernest Thomson, was designed to improve the social and professional relationships of ophthalmologists in Scotland, all objective which it certainly achieved. He was for many years the secretary of the Fin de Siècle Club, which was open to medical graduates of the years 1895-1899 and in the terms of its constitution was based upon loyalty to the University of Glasgow and its Medical School. Until quite late in his life he served upon the editorial

committees of the Glasgow Medical Journal, the Ophthalmoscope, Ophthalmologica, and the British Journal of Ophthalmology. The first world war upset many of his hopes and plans. In August, 1917, he was appointed ophthalmic surgeon to the 67th General Hospital in Salonica, and after the war resumed his private practice in Glasgow and his devotion to the Glasgow Eye Infirmary. In 1920 he was appointed Lecturer in Ophthalmology to the University of Glasgow, and when the Chair of Ophthalmology came into being in 1935 he became the first professor, as well as the first director of the Tennent Institute of Ophthalmology. Ballantyne held this office for only 6 years before he retired in 1941 under the age-limit rules, and the university conferred upon him the title of Emeritus Professor and the honorary degree of LL.D. The quinquennia before and after his official retirement formed the most active and fruitful period of his life. From 1936 until 1948 he served on the Board of Management of the Glasgow Eye Infirmary and the Royal Hospital for Sick Children. He continued to work as consulting ophthalmic surgeon to the Glasgow Royal Maternity and Women's Hospital, a position which he had held since 1915. He lectured in Basel, in the United States of America, and in Eire. He gave the Doyne lecture in 1946 on the *state of the retina in diabetic retinitis*, a subject which he had studied in great detail, and in 1950 he was awarded the Edward Nettleship Prize. He collaborated with Professor Michaelson and Professor →Loewenstein in the study of retinal minutiae, and was a strong advocate of the meticulous correlation of clinical and pathological data. The resources of the Tennent Institute were designed with this objective in view, and he did his utmost to live up to the high ideals which he had set himself. He wrote, with Isaac C. Michaelson (Jerusalem) a *Textbook of the Fundus Oculi* Edinburgh 1962. BJO 1955,39:63.JPW

Balthasar, Theodor (end 17th, early 18th cent.,) German physician and professor of mathematics and medicine at Erlangen, Germany. Balthasar wrote: "*Micrometria de micrometrorum, tubis opticis seu telescopiis*" Erlangen 1710. Albert

Baltz, Theodor Friedrich (1785-1859) German physician who served as a military surgeon in the Prussian army. After the campaign of 1815, he completed his medical studies and received his M.D. at the University of Heidelberg in 1816. Baltz's doctoral thesis was: "*De ophthalmia catarrhali bellica Praemittitur Francisci Caroli Naegele*" Heidelberg 1816. He later published a more elaborate work on the subject which won a prize from the Utrecht Society of Arts and Sciences. Albert

Banaji, Burjor P. (1958-) Indian Ophthalmologist, Consultant Ophthalmic Surgeon. Banaji graduated from Grant Medical College, Bombay, in 1981 and received postgraduate training in St. George Hospital, Grant Medical College, Bombay Hospital and Tennent Institute of Ophthalmology, Glasgow and Gartnavel General Hospital in Glasgow. In 1987, he received Diploma of Ophthalmology from Royal College of Surgeons of England, of Glasgow and from Royal College of Physicians and Surgeons in Ireland. He also received Master of Surgery from the University of Bombay in 1988. He served as Honorary Ophthalmic Surgeon at Masina Hospital Bombay (1989-1992), and is in service as Consultant Ophthalmic Surgeon Parsi General Hospital Bombay (1989-), at Tata Institute of Fundamental Research (1990-) and Breach Candy Hospital (1997-). He specializes in the anterior segment surgery and Ophthalmic laser technologies and gave many lectures and courses in this field, both at National and International Meetings. He has been guest lecturer at Massachusetts Eye and Ear Infirmary, Boston, in 1996, at University of Alabama and Moorfield Eye Hospital, London. He developed many surgical instruments, e.g. Banaji LASIK Shield, speculum, Banaji LASIK marker etc. (Navsari Building 240 Dr. D. N. Road, Bombay-400 001, India. phone: +91-22-207-8823, fax: +91-22-203-5653) (SM)

Bangerter, Alfred (1909- ?) Swiss ophthalmologist. University lecturer University of Bern 1944. Honor. professor since 1956. Director of the St.Gallen Eye Clinic since 1946. Director of the School for Pleoptics and orthoptics. Member of the Swiss Academy of Sciences, of the German Academy Leopoldina, of the Europ.Schielrat (European Squint Committee). Bangerter's main fields were plastic ophthalmic-surgery, surgery of eye muscles, pleoptic & orthoptics. He wrote: "*Behandlungen von Augenkrankheiten*" 1946, 2nd.ed.54; "*Amblyopie-behandlung*" 1953, 2nd ed 1955. "*Wann - Was ?*" (What-When?) 1958; "*Amblyopie prophylaxe d. anomale Korrespondenz*". Countless articles in *Ophthalmologica* (Basle) and *Klinische Monatsblätter f. Augenheilkunde*. Kürschners Gelehrten- Kalender 1966,p.76.

Banières, Jean (born 1700) French philosopher. *Examen et réfutation des Éléments de la philosophie de Neuton de M. Voltaire, avec une dissertation sur la réflexion & la réfraction de la lumière*. Paris 1739. Albert

Banister, Richard (1570? - 1626) English. Oculist. Published in 1622 a translation of →Guillemeau's *Traité de l'Oeil*(1585): "*A Treatise of one hundred and thirteene diseases of the eyes*." He was the first to note the hardness of the eyeball in glaucoma. Concise Dictionary of National Biography (Oxford 1901), American Encyclopedia Ophthalmology,2,pp.879-880. Albert; [GM 5820]

Bankart, James(1834-1902) Famous English ophthalmic surgeon. Studied at Guy's Hospital, afterwards Anatomical Demonstrator. Later surgeon at the West of England Eye Infirmary. American Encyclopedia of Ophthalmology.

Banks, James Leshe Kennerley (1935-1993). British ophthalmologist. James Banks was born in Romiley, Cheshire, on 10 March 1935, the son of Reginald and Alice Banks, who were both pharmacists. He was educated at King's School Macclesfield, King Edward VII School, King's Lynn, and the City University, London, before entering St Mary's Hospital Medical School where he won the physiology prize and qualified in 1961. After junior appointments at St Mary's and the Whittington Hospitals he became senior house officer at the Western Ophthalmic Hospital, and then rose up the ladder at Moorfields Eye Hospital. He was appointed consultant ophthalmic surgeon to St Mary's Hospital, Paddington, the Western Ophthalmic Hospital and St Luke's Hospital for the Clergy. Later he became ophthalmic surgeon to the Royal Naval Officers' Association. secretary to the Ophthalmic Society of the United Kingdom and sub-dean at St Mary's Hospital Medical School. His publications included important contributions in ophthalmology, such as *Clinical ophthalmology.. a text and colour atlas* (1985) and *Sports Eye Injuries*. In 1991 James Banks was appointed Master of the Worshipful Company of Spectacle Makers of London. His other interests included painting in oils, opera, theatre, wine, bookbinding, and collecting eighteenth century furniture and silver. Banks received following titles: MRCS 1961; FRCS 1967; DO Eng 1965; FCOphth 1989; MB BS London 1961; LRCP 1961.LFRCSE



Richard Banister

Banks, Martin S. (?-) American scientist. Banks studied at the Occidental College from 1966 to 1970, and received his B.A. in Psychology. His M.A. (in Experimental Psychology) was granted to him at the University of California, San Diego (1971-1973), the Ph.D. (in Developmental Psychology) at the Univ. of Minnesota (1973-1976), University of Texas at Austin (1976-1982), Assistant Professor of Psychology; (1982-1984), Associate Professor, University of California at Berkeley (1984-1989), Associate Professor of Optometry; (1989- present), Professor of Optometry; (1985-present), Adjunct Professor of Psychology. University of California at Berkeley, Chairman of the Vision Science Program (1995- present). Publications: Ernst, M.O., Banks, M.S., Bühlhoff, H.H. *Touch can change visual slant perception* (2000). *Nature Neuroscience*, 3, 1, 69-73. Backus, B.T. & Banks, M.S. (1999). *Estimator reliability and distance scaling in stereoscopic slant perception*. *Perception*, 1999, 28, 217-242. van Ee, R., Banks, M.S., Backus, B.T. *An analysis of binocular slant contrast*. *Perception* (1999), 28, 1121-1145. Backus, B.T., Banks, M.S., van Ee, R., Crowell, J.A. *Horizontal and vertical disparity, eye position, and stereoscopic slant perception*. *Vision Research*, 39 (1999) 1143-1170. van Ee, R., Banks, M.S., Backus, B.T. (1999). *Perceived visual direction near an occluder*. *Vision Research*, 39, 24, 4085-4097. Banks, M.S. & Backus, B.T. (1998). *Extra-retinal and perspective cues cause the small range of the induced effect*. *Vision Research*, 38, 187-194. Banks, M.S., van Ee, R., & Backus, B.T. (1997). *The computation of binocular visual direction: A re-examination of Mansfield and Legge* (1997). *Vision Research*, 37, 1605-1610. Marty Banks' Lab, University of California, Berkeley, Vision Science, 361 Minor Hall, Berkeley, CA 94720-2020 . Tel (Laboratory) : (510)-642-7679; Marty Banks : (510)-642-9341; Fax:(510)-643-5109 (JPW)

Bárány, Ernst H. (1910-1991) Swedish Pharmacologist and Ophthalmologist. He was born in Vienna as the son of the Otologist and Nobel Laureate Robert Bárány and was qualified in Medicine at Uppsala and was awarded the Doctorate of Science in 1940. Primarily a basic scientist he had also a three years education in clinical ophthalmology. Professor and Chairman of Pharmacology at Uppsala 1949-1977. The department of Pharmacology became an international center of experimental Ophthalmology. Bárány was the inspiring leader of many young scientists among others eight future Swedish professors; in Ophthalmology, Physiology, Pharmacology, Neurology and in Anesthesiology. Bárány's contributions to the experimental ophthalmology has to a considerable extent deepened our knowledge of the regulation of intraocular pressure and aqueous formation and outflow. Many publications in this field include the following original papers: "*Mode of action of pilocarpine on the outflow resistance in the eye of a primate (Cercopithecus ethiops)*, Friedenwld Lecture, Invest. Ophthalmol. 1: 712, 1962", "*Simultaneous measurement of changing pressure and outflow facility in the vervet monkey by constant pressure infusion*. Invest. Ophthalmol.3: 135, 1964", "*A mathematical formulation of intraocular pressure as dependent on secretion, ultrafiltration, bulk outflow and osmotic reabsorption of fluid*. Invest. Ophthalmol. 2: 584, 1963" and "*Pseudofacility and uveo-scleral outflow routes. Some non-technical difficulties in the determination of outflow facility and rate of formation of aqueous humour*. Glaucoma Symposium Tutzing Castle, Karger, Basel, 1967". For the excellence of his contribution, he received many International Awards and they are The Friedenwald medal 1962, the Doyne medal 1966, the Gullstrand medal 1982 – Honorary doctor at Bern University 1967. (by L. Berggren)

Baratta, Giovanni (?-1851) Italian physician of Milan. He was a physician at the military hospital of Milan and specialized in ophthalmology. He was the author of "*Osservazioni pratiche sulle principali malattie degli occhi*. (2 vols.) Milano 1818 which was translated into German by Eduard Wilhelm Güntz: "*Praktische Beobachtungen über die vorzüglichsten Augenkrankheiten*" Leipzig 1822. Albert

Barbier, Joseph Jules (1767- ?) French Philanthropist born in Valenciennes. Joined the revolutionary army in America. Founded a reading system for the blind with dots. This system was later adopted by →Braille. *American Encyclopedia of Ophthalmology*, 2, pp.881.

Barde, Jules Auguste (1841-1915) French ophthalmologist. He studied under Albrecht von Graefe in Berlin and became assistant to E.Meyer in Paris. In 1869 he established a private eye clinic in Geneva. Barde became 1874 director of an institution for the free

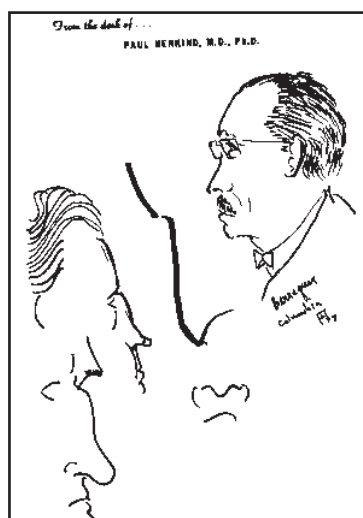
treatment of eye diseases founded by Baron Adolphe de Rothschild at Geneva. He received a call for the 1876 founded chair of ophthalmology in Geneva, but preferred to retain his position at the Rothschild Institution. *The Ophthalmoscope*, 1915, p. 164.

Bärensprung, Friedrich Wilhelm Felix (1822-1864) German dermatologist. He was the first to indicate that herpes zoster ophthalmicus is confined to the distribution of the first and second branches of the trigeminus nerve. *American Encyclopedia of ophthalmology* 2, pp. 883.

Barkan, Otto (1887-1958) American-Hungarian ophthalmologist. He was the son of Dr. Adolph Barkan, a Hungarian who was one of the original staff in the Eye, Ear, Nose and Throat Department of Stanford University School of Medicine. The son followed in the footsteps of his father, and in his medical education he travelled widely. He studied at Trinity College, Oxford, obtained the B.A. degree in 1909, graduated in medicine in Munich in 1914, and later served as a house-physician in St. Mary's Hospital, London, and became a member of the Royal College of Surgeons of England. His essential eye training was received at Munich and Vienna. Returning to San Francisco in 1920, he became a member of the Faculty at Stanford University where he worked for the remainder of his professional life, practising ophthalmology in San Francisco. He gained a world-wide reputation by his studies on glaucoma and was a pioneer in stressing the importance of the width of the angle of the anterior chamber in the differential diagnosis between closed-angle and simple glaucoma. He will always be remembered for the introduction of the operation of goniotomy (trabeculotomy) in the congenital form of this disease, a technique which has revolutionized the prognosis of this intractable condition in many cases. In his life-time, Otto Barkan's achievements were duly recognized and his professional interests and contacts were world-wide; apart from being a member of many American Societies, he was a member of the British, French, and Belgian Ophthalmological Societies. He received the Howe Medal in 1954. *BJO* 1958,42:512; *AJO* 1958,46:101-102

Barraquer, Ignacio (1884-1965) Spanish ophthalmologist who had practiced and contributed to the advancement of ophthalmology for 57 years. The influence of his work and the activities of the Instituto Barraquer have made his name well known over the world. Born in Barcelona, he developed an early interest in the eye under the influence of his father, José Antonio Barraquer-Roviralta who was an eminent ophthalmologist and the first lecturer on practical ophthalmology in Barcelona. In 1907, he was graduated with honors and obtained, one year later, his medical degree from the University of Barcelona Medical School. In addition to this, he had received a special training in physics and chemistry. He initiated his ophthalmologic practice as a physician at the Hospital de la Santa Cruz y San Pablo where he was later put in charge of the Ophthalmic Service. At the same time, he was his father's closest associate in his private practice which he continued after his father's death. At the university of his native city, he first taught as an associate lecturer, then held for some time the chair of ophthalmology and, in 1933, was appointed free-lance lecturer. These activities might have passed unnoticed outside the frontiers of his country had he not presented the ophthalmologic world with one of the essential advances in lens surgery: a procedure for intracapsular cataract extraction by pneumatically grasping the lens with a small suction cup of regulatable vacuum which he first published in 1917, naming the technique phakoeresis and the instrument erisophake. The interest which this new method evoked throughout the world brought many visitors to his service in Barcelona and made him a solicited guest at ophthalmologic meetings. During this period of extensive traveling abroad, he also visited the United States in 1922 and demonstrated his surgical technique in Washington, Philadelphia, New York, Boston and Richmond. He became familiar with the work of all the outstanding ophthalmologists of that time and with the organization and equipment of the then most famous eye centers. Being a man with a practical mind, keen on innovation and perfection, he realized that the knowledge and experience he had accumulated could best be used to the benefit of all in a modern ophthalmologic center of his own conception, and he converted this ideal into reality by personally planning and supervising the construction, installations and equipment of the clinic that bears his name. Inaugurated in 1941, this extraordinary center in which he omitted nothing that could contribute to the patients comfort and to efficient clinical and surgical teamwork, was completed by him in 1947 with the creation of the Barraquer Institute which made his

experience available to others by means of annual postgraduate courses for theoretic and practical training, residencies, publication of ophthalmic literature and edition of scientific films. But most important, he made sure that this center always remains open to new ideas by initiating a series of International Courses which licit an ever-increasing interest all over the world. But, although his name will remain linked to cataract surgery, his interests and contributions covered every field of ophthalmology. He produced innumerable writings on the most varied subjects, and countless honors were bestowed upon him, of which the Couder Prize, the Great Cross of Alfons X the Wise, the Gold Medal for Merit in Work, and his nomination as an officer of the French Légion d'Honneur are but a few examples. The last act he did was the donation of his eyes. AJO 1965,60:548-549



José Barraquer by Paul Henkind

Barraquer, José I. (1916-1998)

José Barraquer is widely acknowledged to be the father of refractive surgery. He was born in Spain, but moved to Bogota, Colombia, where he founded the renowned Barraquer Institute of America. Although Barraquer made many important contributions to ophthalmology, his life's work was dedicated to the idea of reshaping the cornea to change the eye's refractive power. The procedures he developed and the instruments he designed laid the groundwork for photorefractive keratectomy (PRK) and laser in-situ keratomileusis (LASIK) and other modern vision correction surgeries. Barraquer continued to practice, invent and teach until his death.

Barras, Thomas Crawford (1921-1994). Scottish ophthalmologist. Thomas Crawford Barras came of a distinguished Glasgow medical family. His father, William Barras, was President of the Scottish Society of Anaesthetists at the time of his death in a motoring accident in 1928, and his grandfather Thomas Crawford also practised as a doctor in Glasgow. Barras was born in Glasgow and educated at Glasgow High School and the University of Glasgow, where he qualified MB ChB in 1944. He trained at first in general surgery, but later moved to study ophthalmology at Glasgow Western Infirmary and the Termant Institute of Ophthalmology, Glasgow. He worked at the Glasgow Eye Infirmary and the Southampton Eye Hospital and was senior lecturer in the Department of Clinical Ophthalmology, Institute of Ophthalmology, London. He joined the Merchant Navy as a surgeon in 1945 and was a surgeon in the Royal Naval Volunteer Reserve from 1946 to 1950, in which year he transferred to the Royal Naval Medical Service, where he attained the rank of surgeon captain. Barras earned following titles: MRCS and FRCS 1965; MB ChB Glasgow 1944; DO 1960. LFRCS

Barre, A. (? - ?) French ophthalmologist. He authored "*Du diagnostic des lésions profondes de l'oeil a l'aide de l'ophtalmoscope et des phosphènes.*" Montpellier 1857. Albert

Barrier, Francois-Marguerite (1812- ?) French. Pediatrician, Surgeon & extractor of cataracts. Barrier received his MD in Paris and settled in Lyon where he became Professor of clinical surgery at the Preparatory School for Pharmacy and Medicine. He wrote articles on *Dislocation of the Lens; Transparent Staphyloma of the Cornea; A Bandage for Use After the Cataract-Operation, etc.* He was one of the first, if not the very first, to emphasise the importance of making most accurate visual tests after the cataract operation. American Encyclopedia of Ophthalmology, p.885-86.



Joseph Barth

Barrow, Isaac (1630-1677) English Philosopher, mathematician & theologian. Teacher and friend of Isaac Newton. He was born in London and studied in Cambridge. Under investigation during Cromwell's time, he went to the orient 1655. Back in Cambridge he became 1661 professor for Greek and one year later professor in philosophy. 1664, Barrow was appointed *Lucasian-Professor* for Mathematics. 1669 his chair was assumed by his pupil → Isaac Newton, who also took over his lectures on optics. He became director of Trinity College and in 1675 Chancellor of the Cambridge University. He authored: "*Elements: the Whole Fifteen Books* London 1660 (which are Euclid's *Elements*), second edition under the title "*Lectiones opticae & geometricae*" 1674 which had been revised by his pupil Newton. DSB, Albert; Concise Dictionary of National Biography (Oxford 1901).

Barth, Joseph (1745-1818) Austrian ophthalmologist, born on Malta, who studied medicine at the universities of Rome and Vienna. Barth became professor of

ophthalmology and anatomy at the Vienna University in 1773 and oculist to Emperor Joseph II in 1776; among his pupils was Adam→Schmidt and the famous G.→Beer, the "father of Austrian ophthalmology". He wrote: *Etwas über die Ausziehung des grauen Staares. für den geübten Operateur* Wien 1797 and "*Muskellehre*" Wien 1786, 2nd edition 1819. American Encyclopedia of Ophthalmology, pp.887-88. Albert

Bartisch, George (1535-1606) German barber and surgeon. He served three years apprenticeship in surgery and lithotomy. Itinerant oculist and surgeon through Saxony, Silesia & Bohemia, Bartisch was the first to practice the extirpation of the bulbus. He is the founder of modern ophthalmology. He published in Dresden 1583: "*Ophthalmodouleia, das ist Augendienst*", 2nd edition Frankfurt 1584 (Rare!!), 3rd edition 1686 (with new plates). The *First English* edition appeared in 1996, translated by Donald L. Blanchard, Wayenborgh Ostend 1996). A french translation appeared in form of a Doctoral thesis in 1985. Several reprints were published in the second half of the 20th century (Masnou 1962, London 1966, Stuttgart 1977, New York 1981 and Hannover 1983). Bartisch also wrote a book on urology that was never printed in his life-time. A translation of this urology textbook by Donald Blanchard is in progress and due to be published by Wayenborgh/Ostend. American Encyclopedia Ophthalmology, Albert [GM 5817]. see also: Heinrich, Curt: *Die Lehre vom Star bei Georg Bartisch* (Jenaer medizin-historische Beiträge, Heft 6, Jena 1916); Koelbing, Huldrich M.: *Renaissance der Augenheilkunde 1540-1630*, Bern 1967. JPW

Bartley, George Brian (1955-) American ophthalmologist, born in Warren, Ohio. Bartley received his B.A. at Miami University (Oxford, Ohio) and his M.D. at the Ohio State University College of Medicine (Columbus, Ohio). After internship in Columbus, Bartley pursued residency training in ophthalmology at the Mayo Clinic (Rochester, Minnesota) under the supervision of, among others, Drs. Richard F. Brubaker, Thomas P. Kearns, and Robert R. Waller, M.D.. Subspecialty training in oculoplastic and orbital surgery was obtained at Wright State University (Dayton, Ohio), working with Dr. John D. Bullock. Bartley joined the Department of Ophthalmology at Mayo Clinic Rochester in 1986. He was appointed Department Chairman in 1992 and served in this role until 2001, when he was elected to the Mayo Board of Governors. Bartley was author or coauthor of more than 150 papers between 1985-2000, the most notable of which were his thesis for the American Ophthalmological Society on the epidemiology of Graves' ophthalmopathy and his thesis for the American Society of Ophthalmic Plastic and Reconstructive Surgery on acquired lacrimal drainage obstruction. Bartley is Editor-in-Chief of *Ophthalmic Plastic and Reconstructive Surgery* and an editorial board member of *Ophthalmology* and *The American Journal of Ophthalmology*. Additionally, he is a Director of the American Board of Ophthalmology, a member of the Orbital Society, and was President of the Cogan Ophthalmic History Society from 1997-2000. Address: George B. Bartley, M.D., Department of Ophthalmology, Mayo Clinic, Rochester, Minnesota 55905. Tel: 507-284-8538 Fax: 507-284-4612 e-mail: gbartley@mayo.edu (AB)

Barton, Amy S. (1841-1900) American. First woman physician in Pennsylvania. She graduated in medicine in 1874 at the *Woman' Medical College* and became soon clinical professor of ophthalmology at the same college. She was for a certain time District Physician, for many years one of the consulting staff of the West Philadelphia Hospital for Women and assistant at Wills Eye Hospital. American Encyclopedia of Ophthalmology, Vol.2, p.896-898

Basedow, Karl A. von (1799-1854) German. Physician, surgeon and ophthalmologist. Received his MD in Halle and settled in Merseburg. He wrote articles in Walther's *Journal der Chirurgie und Augenheilkunde*, & *Wochenschrift der Heilkunde*. His fame is based on his article "*Exophthalmos*" in Walther's *Journal der Chirurgie und Augenheilkunde*. American Encyclopedia of Ophthalmology, pp.899-901. [GM 3816].]

Baseilhac, Jean (1703-1781) French. Was for a time student of surgery at the Hôtel Dieu at Lyons. He entered the ecclesiastical order of Bernardines at Paris under the name of brother *Jean de Saint Côme* where he continued to practice surgery. He became celebrated as oculist & cutter of stone. He made several improvements of ocular instruments and operations. American Encyclopedia of Ophthalmology, pp.908. [GM 4285]

Batten, Frederick Eustace (1866-1918) British, London ophthalmologist, especially renowned for his researches in familial diseases of the eye. Born at Plymouth, England, he received his training in the liberal arts at Westminster and at Trinity College, Cambridge; and his medical education at St. Bartholomews Hospital, London. He was a member of the Council of the Ophthalmological Society of the United Kingdom from 1904-'06 and Secretary from 1906-'09. *AJO* 1919,2:163-165

Baudens, Jean Baptiste Lucien (1804-1857) French military surgeon, received his M.D. at Paris in 1827. As surgical officer in the French army serving in Algeria (1830-1841), he founded a hospital, where he taught surgery and anatomy. After he returned to France, he became chief surgeon at the hospital of Val-de-Grace. Baudens was one of the early performers and advocates of the strabismus operation; he recommended simultaneous tenotomy of several muscles of the same eye, an approach which was later rejected. Among other surgical works, he wrote: *"Leçons sur le strabisme et le bégaiement faites à l'Hôpital Militaire du Gros-Caillou"* Paris 1841. Albert.

Baudry, Sosthène (1849- ?) French ophthalmologist who wrote : *«De l'anesthésie en chirurgie oculaire»*. Paris 1885. Albert



Antonius Franciscus Bauduin

Bauduin, Antonius Franciscus (1820-1885) Dutch Military Surgeon and Ophthalmologist. Teacher of Medicine in Japan, 1862-1870. He graduated from the Military Medical College in Utrecht in 1843 and was granted the Doctor of Medicine in Groningen University in 1845, then served as a military surgeon: he was promoted to a teacher at Utrecht Military Medical College in 1847. He was a good friend of C.F. Donders and both of them attended the *First International Congress of Ophthalmology* held in Brussels in 1857. He was then invited by the Tokugawa Government of Japan to teach Medicine in Nagasaki in 1862, when he brought Helmholtz's Ophthalmoscope and taught its use. He made a contract with the Tokugawa Government to build a new Medical School in Edo (now Tokyo) and came home for its preparation in 1867. During his absence, the Tokugawa Government was terminated and a new Government was established in 1868 under the Emperor Meiji (the Meiji Restoration). On his return to Japan, the new Government asked him to teach medicine at Osaka Medical School and also at a new Military Medical School in Osaka, where he stayed until June 1870. On his way home, the Meiji Government asked him to teach Medicine at Tokyo Medical School (now Tokyo University) and he stayed in Tokyo until October of that year. There remain many notes of his lecture, and we can find that he taught the most up-to-date Ophthalmology of that time. The record of his attendance at the International Congress of Ophthalmology is as a Dutch delegate at the first Congress, but at the 2nd, 3rd, 4th Congresses he was recorded as " au Japon ": thus he was the first delegate of Japan to the International Congress of Ophthalmology. In 1880, the Emperor granted him the National Order of Merit for his outstanding service in Medical Education in Japan. (SM)

Baum, Jules L. (1931-) American ophthalmologist and research scientist. Born in Brooklyn, New York. Baum received an A.B. from Dartmouth College in 1952, an M.D. from Tufts University in 1956 and an M.S. in Ophthalmology from New York University School of Medicine (N.Y.U.) in 1962. Following a research fellowship at N.Y.U. from N.I.H., he completed his residency in Ophthalmology in 1965 at N.Y.U.-Bellevue. He then worked under Claes H. →Dohlman at the Massachusetts Eye and Ear Infirmary and Corneal Unit, Retina Foundation, Boston as part of a 1 year N.I.H. Corneal Fellowship. After returning to N.Y.U. as an Assistant Professor, he returned to Tufts-New England Center Hospital, Boston in 1968 for the remainder of his full-time academic career, achieving a full Professorship in 1974. Baum received the W.W.Hoppin , N.Y. Acad. Med. Award (1959), the Amer. Acad. Ophthalmol. (AAO) Honor (1979) and Senior Honor (1990) Awards, the Alcon Research Institute Award (1991) and was the Castroviejo Corneal Medallist in 1997. He served on the AAO Board of Councillors, 1981-83 and was Corneal Trustee (1985-85) and Vice-President of ARVO. Baum also served as Executive Sect. -Treas. (1979-87), Vice-Pres. (1987-89) and Pres. (1990-92) of the Castroviejo Corneal Soc. and was President of the Ocular Microbiology Immunology Group (1989-1991). He was a member of other state, national and international committees and served on the Editorial Boards of *Invest. Ophthalmol. Vis. Sci* (1978-83), *Am. J. Ophthalmol.* (1985-91), *Cornea* (1989-98) and *Ophthalmol. Surg* (1985-95).

Currently, he is a consultant to Medical Letter, A.M.A. Drug Evaluations, and the U.S. Pharmacopoeial Convention and is a Fellow of the Royal College of Ophthalmologists. Baum's research interests are broad and encompass both basic science and clinical investigations in corneal pathology and pathophysiology (*Castroviejo Medal Lecture*, Cornea 1997; 16: 602-611), *corneal infections/ antibiotic pharmacokinetics* (New Eng. J. Med. 1978; 299:28-31), *corneal biochemistry* (J. Clin. Invest. 1979; 634: 545-551 with B. Yue) and *dry eye/tear physiology* (Ophthalmology 1980; 87:920-930 with A. Jordan). Baum enjoys food and wine and is a Commandeur in the Confrerie des Chevaliers du Tastevin and is a member of the Chaîne des Rotisseurs and the International Wine and Food Society.(JPW)

Baumgarten, Friedrich Moritz Oswald (1813-1849) German surgeon born in Arnsdorf, Germany. Baumgarten became a famous plastic surgeon of Dresden, often collaborating with Ammon in his research and writing (Articles in *von Ammon's Monatschrift* 1838). In ophthalmology, he wrote "*Das Schielen und dessen operative Behandlung*" Leipzig 1841 which is an early textbook on strabismus.).American Encyclopedia of Ophthalmology,pp.914; Albert

Bavaria, Archduke of *see* **Karl Theodor, Archduke of Bavaria**

Bayer, Josef (1847-1925) of Vienna, was trained in both human and veterinary medicine. He taught surgery at the military hospital in Vienna, graduating later, in 1874, in veterinary medicine. His main interest was recurrent uveitis of the horse. Bayer helped to found a school of veterinary medicine in Vienna(becoming its first director in 1897) and started collecting hundreds of eyes postmortem and also founded an ophthalmological museum that became, later, famous under the direction of Otto Überreiter, another veterinarian ophthalmologist. Among other surgical works, he published: "*Bildliche Darstellung des gesunden und kranken Auges unserer Haustiere.*" Wien 1892.

Bayley,Walter *see* **Bailey.**

Beach, Sylvester Judd (1879-1953) American ophthalmologist, born in Dedham, Massachusetts. He graduated from Exeter Academy. He received his A.B. degree from Harvard College in 1901 and his medical degree from Harvard Medical School in 1905. Beach's training as a physician and ophthalmologist was of the highest caliber. From 1904 to 1906, he was surgical house officer at the Boston City Hospital and in 1906 was house physician at the Boston Lying-in Hospital. The next year, he commenced a residency at the Massachusetts Eye and Ear Infirmary. With this excellent preparation for his life's work, he established a private practice in Augusta, Maine, in 1909, moving to Portland in 1920. He was ophthalmic surgeon at the Maine Eye and Ear Infirmary and served as staff president from 1946 to 1948. Other appointments included: chief ophthalmologist of the Portland City Hospital and the Maine General Hospital, membership in the Maine State Department of Health from 1916 to 1924, and oculist to the Medical Advisory Board during the first World War, serving in this capacity from 1916 to 1918. He was a past president of the New England Ophthalmological Society and of the Portland Medical Club. Locally, nationally, and internationally, Judd Beach was recognized as an outstanding leader of ophthalmology and, because of this, he was honored by many ophthalmological organizations. In 1939, he served as chairman of the Section on Ophthalmology of the American Medical Association and, in 1944, as president of the American Ophthalmological Society, having previously been elected vice-president and a member of the council. From 1932 to 1935, he was a member of the Council of the American Academy of Ophthalmology and Otolaryngology. Beach was also a fellow of the American College of Surgeons. His wide range of interests included the Association for Research in Ophthalmology, in which he was an active member of the commission for several years; and the Foundation for Vision, serving as vice-president from 1944 to 1945. He was a co-founder with Walter Lancaster of the Ophthalmological Study Course in 1945, and he continued as a member of its executive committee until 1948. He was deeply devoted to the work of the American Board of Ophthalmology and served as an active member from 1930 through 1948. He was elected secretary of the board in 1944 and sacrificed much of his energy and time in performing these duties until his illness in 1948. In addition to his heavy practice, Beach made time to contribute numerous important monographs to medical literature and wrote a splendid textbook on the principles of

refraction (*Principles of Refraction*, St.Louis 1952). The examination of the eye was a subject dear to his heart and he contributed the chapter, "Routine examination of the eyes," to Conrad Berens' *The Eye and Its Diseases*. AJO 1953,36:725-726.JPW

Beale, Lionel Smith (1828-1906) British professor of medicine, physiology, and pathological anatomy at King's College, London (1853-1876). He invented, in 1860, Beale's ophthalmoscope for examining the ocular fundus without darkening the room. He also wrote a textbook on microscopy: "*The microscope and its application to clinical medicine*." London 1854, in which he gives instructions for the microscopic examination of the cornea, retina, and crystalline lens. Albert; Schett 253.

Beard, Charles Heady (1855-1916) American ophthalmologist. Beard was surgeon to the Illinois Charitable Eye and Ear Infirmary and ophthalmic surgeon to the Passavant Memorial Hospital. He was a member of the American Ophthalmological Society, the American Academy of Ophthalmology and Oto-Laryngology and the American Chicago Ophthalmological Society. He wrote sections of *Pyle's International System: "Ophthalmic Surgery"* in 1910 and "*Ophthalmic Semiology and Diagnosis*" in 1913. *The Ophthalmoscope*, 1916, p.226-227

Beck, Bernhard (1821-1894) German physician born in Freiburg. Beck studied in Freiburg and in Heidelberg, and was assistant to Caspar Stromeyer. He became a lecturer in anatomy at Freiburg, but in 1848 took up a career as a military surgeon. He wrote: *Über die Verbindungen des Sehnerven mit dem Augen- und Nasenknoten, sowie über den feineren Bau dieser Ganglien*. Heidelberg 1847. Albert

Beck, Karl Joseph (1794-1838) German physician of Freiburg, who studied medicine in Freiburg and in Tübingen. He taught general surgery, obstetrics, and ophthalmology at the University of Freiburg; ophthalmic surgery was his particular interest and the subject of a number of his writings: "*Handbuch der Augenheilkunde*" Heidelberg 1823; *Sacra natalitia principis ... De oculorum mutationibus, quae cataractae operationem sequuntur ...* Freiburg i.Bresgau 1833; *Abbildungen von Krankheitsformen aus dem Gebiete der Augenheilkunde* Heidelberg und Leipzig 1835. Albert



Franz Josef von Becker

Becker, Franz Josef von (1823-1890) Finnish Ophthalmologist of Helsinki, Finland. He graduated from the University of Helsinki and presented his MD thesis on "*Carbohydrate metabolism in living animals*" in 1853. He was appointed to the Chair of Pharmacology, Pharmacy and Medical Chemistry at the University of Helsinki. He was fascinated by the demonstration of Helmholtz ophthalmoscope at one of the national meetings, and he went to Germany 1857-1858 to study ophthalmology under the supervision of Albrecht von Graefe. At Graefe's Clinic von Becker was known with the nickname "Sugar-Becker". He attended the first International Congress of Ophthalmology in Brussels 1857; after returning to Finland he fought hard for the foundation of the First Chair of Ophthalmology at the University of Helsinki. He finally succeeded and the chair in Helsinki was the very first one in all Scandinavian Countries. Von Becker was appointed to be the First Professor of Ophthalmology in 1871. He also succeeded in founding the first eye clinic in 1873. Von Becker had the Chair from 1871 until his retirement in 1885. He devoted his energy to the fight against trachoma, the main cause of blindness in Finland. Cataract surgery was performed by von Graefe's methods, and von Becker maintained a lively consultation service with von Graefe by mail. His further research consisted of embryology and microscopic structure of the human and vertebrate lens (Albrecht v Graefe's *Archiv Ophthalmol* 1863: 9, II. 1-42.). By his will he donated all his property for the founding of a school for the blind children. [by Ahti→Tarkkanen]



Otto Becker

Becker, Otto Heinrich Enoch (1828-1890) German ophthalmologist born in Domhof, Germany, who received his M.D. at the University of Vienna in 1859. He was a pupil and later private assistant of Ferdinand→Arlt. In 1868 he became professor of ophthalmology at the University of Heidelberg, succeeding Hermann→Knapp. He developed "Becker's test for astigmatism and discovered "*Becker's sign*" the spontaneous pulsation of the retinal arteries. He translated into German F.C.Donders classic: *On the Anomalies of Accommodation and Refraction of the Eye* in 1866 and edited with C & J Heitzmann, R. Sattler and F. Veith the "*Atlas der pathologischen Topographie des Auges*" Wien 1874-1878; *Photographische Abbildungen von Durchschnitten gesunder und kranker*



Augen. (3 vols.) Wien 1876; "*Zur Anatomie der gesunden und kranken Linse*" Wiesbaden 1883 and "*Jacques Daviel: Ein Gedenkblatt*" Würzburg 1888. American Encyclopedia of Ophthalmology, pp.918-920; Albert

Beer, Georg Joseph (1763-1821) Austrian ophthalmologist of Vienna, a pupil of →Barth, who opened the first known eye hospital, in Vienna in 1786. He became the most celebrated ophthalmic surgeon of his day and founded the "Vienna school of ophthalmology," whose disciples included →Ammon, →Jaeger and →Rosas, among many others. Beer devised the iridectomy, and was the first to describe the symptoms of acute glaucoma and to note the luminosity of the fundus in cases of aniridia. He wrote: "*Praktische Beobachtungen über verschiedene, vorzüglich aber über jene Augenkrankheiten*" Wien 1791; "*Praktische Beobachtungen über den grauen Star und die Krankheiten der Hornhaut*" Wien 1791; "*Lehre der Augenkrankheiten*". (2 vols.) Wien 1792; "*Repertorium aller bis zu Ende des Jahres 1797 erschienenen Schriften über die Augenkrankheiten*." (3 pts. in 1 vol.) Wien 1799; "*Methode den grauen Star sammt der Kapsel auszuziehen ... Verbesserungen der Staaroperation überhaupt*." Wien 1799; "*Pflege gesunder und geschwächter Augen, nebst einer Vorschrift, wie man sich bey plötzlichen Zufällen an den Augen*" Wien 1800; French edition: "*Moyens infallibles de conserver sa vue en bon état jusqu'à une extrême vieillesse, et de la rétablir et la fortifier lorsqu'elle s'est affaiblie*" Brussels 1802 (six further French editions appeared until 1819). Italian translation: "*Mezzi infallibili di conservare la vista in buon stato, fino ad*

una vecchiezza estrema di ristabilirla, e fortificarla allorchè è indebolita" Milano 1803; English edition: "*The art of preserving the sight unimpaired to an extreme old age*" London 1813; Dutch edition: "*Beproefde middelen en ernstige raadgevingen etc.*" Amsterdam 1836; Portuguese edition: "*Arte de conservar a vista em bom estado até a estreme velhice* Lisboa 1828." "*Ansicht der staphylomatösen Metamorphosen des Auges, und der künstlichen Pupillenbildung*. Wien 1805; "*Das Auge, oder Versuch, das edelste Geschenk der Schöpfung vor dem höchst verderblichen Einfluss unseres Zeitalters zu sichern*" Wien 1813; "*Lehre von den Augenkrankheiten, als Leitfaden zu seinen öffentlichen Vorlesungen entworfen*." (2 vols.) Wien 1813-1817; English edition, printed in Germany: "*A manual of the diseases of the human eye, intended for surgeons commencing practice from the best national and foreign works*" (2 vols. in 1) Berlin 1819; "*Übersicht aller Vorfälle in den öffentlichen klinische Institute für die Augenkrankheiten an der k. k. Universität in Wien*". (5 pts.) 1813-1817;

Beevor, Charles Edward (1854-1908) British neurologist who devoted considerable attention to ophthalmology. He was secretary of the British Ophthalmological Society, later, 1902-04 vice-president of the same society of which he was one of the original members. Beevor was Croonian Lecturer of the Royal College of Surgeons in 1903 and Lettsomian Lecturer of the Medical Society of London in 1902. American Encyclopedia of Ophthalmology, pp.924. [GM 1416.1]

Beger, Johann Heinrich (1808-1885) German ophthalmologist of Dresden. Beger earned his medical degree at the University of Leipzig in 1833 and started an ophthalmology practice in his home city. He was mainly interested, and wrote on ocular trauma and ocular hygiene: "*De reactione traumatica iridis et anterioris capsulae parietis* ... Leipzig 1833 "*Das Auge von dem Standpunkte der Medicinal-Polizei*" .. Heidelberg and Leipzig 1836; "*Das Blutaugen oder die Blutergiessungen in das Auge und seine Schutz- und Hilfsorgane nach Form und Wesen pathologisch-therapeutisch dargestellt*" Brussels and Leipzig 1843. Albert

Belfort Jr, Rubens (1946-) Brazilian ophthalmologist. Belfort Jr. was born in São Paulo, Brazil. He graduated as an ophthalmologist in 1972 at the Paulista School of Medicine. He was fellow at the Proctor Foundation, University of California, San Francisco, USA during the years of 1974 and 1975. He presented his Master thesis "*Identification of Lymphocytes T and B in Follicular Conjunctivitis and at the Sjögren Syndrome*" in 1978. He presented

his Doctor thesis "*Experimental infection by S. typhimurium in guinea pig eye*" in 1981. Belfort Jr. presented his PhD thesis "*Cellular Immunity in Uveitis Patients*" in 1988 and graduated Livre-Docteur in 1989 at the Paulista School of Medicine with the thesis "*Toxoplasmose Ocular*". He became full Professor in 1989 and is Head of the department of ophthalmology at the same school. He was admitted as Visiting Scientist with clinical and surgical privileges at the National Eye Institute, NIH, Bethesda, in 1990. Belfort Jr. is coordinator of post graduation courses in various schools and universities in Brazil. For his ophthalmologic activities in the years of 1977, 1979, 1981, 1985, 1987, 1988, 1993, 1997, and 1988 he received awards from the Brazilian Ophthalmic Congress, Archives and Council. In 1993, he received the Honor Award from the American Academy of Ophthalmology and in 1997 the Pan-American Medal for Distinguished Services. He is member of a great number of Medical councils, and is a member of the Academia Ophthalmologica Internationalis (chair XXXV), the São Paulo Medicine Academy and the International Uveitis Group. During his academic life, Belfort Jr. has published a great number of papers in almost all ophthalmologic areas, especially retina, cornea and uveitis. He is the author and co-author of various chapters of books published inside and outside Brazil and wrote the following books: "*Doenças Externas da Córnea*" (Corneal External Diseases), Roca, São Paulo, 1981; "*Oftalmologia em Clínica Médica*" (Ophthalmology in Medical Clinics), Roca, 1983; "*Uveites*", Roca, 1987; "*Proceedings of the Uveitis World Symposium*" Roca, 1989; "*Córnea*", Roca, 1996; "*Synopses en Uveites*", Ciba Vision, Mexico, 1997; "*Manifestações Oculares da AIDS*" (AIDS Ocular Manifestations), Ed Cultura Medica, 1999. (Antonio Jordao Jr)

Bell, Benjamin (1747-1806) Scottish surgeon. Studied medicine first in Edinburgh, later in nearly all the celebrated schools in Europe. He was appointed surgeon to the Royal Infirmary in Edinburgh and became later fellow of the Royal College of Surgeons of Edinburgh. He devoted a few hundred pages to ophthalmology in his "*System of Surgery*" American Encyclopedia of Ophthalmology, pp.925.

Bell, Sir Charles (1774-1842) Scottish surgeon and anatomist born in Edinburgh who learned anatomy and surgery from his brother John, a surgeon. In 1804, Bell settled in London, where he practiced surgery, opened his own school of anatomy, and later (1812-1825) taught at the Great Windmill School of Anatomy, founded by William Hunter. His advances in the knowledge of the functional anatomy of the nervous system earned him a knighthood in 1831. He published, of ophthalmological interest: "*On the motions of the eye*" London 1823; "*The organs of the senses familiarly described*" London 1840. (of which the first eight chapters are devoted to the eye); "*Practical essays*". Edinburgh 1841. (Which contains Bell's essay on squinting and strabismus.). Albert

Belloc, Léon (?-?) French ophthalmologist who wrote : "*De l'ophthalmie glaucomateuse: son origine et ses divers modes de traitement.*" Paris 1867. Albert

Belloste, Augustin (1654-1730) French surgeon, born in Paris, who earned fame as a military surgeon and author of treatises on surgery. From 1697 he was attached to the court of the Duchess of Savoy as her principal surgeon; he died in Turin. Belloste revived several ancient surgical methods. Of interest in ophthalmology is his "*Suite du chirurgien d'hôpital, contenant differens traiteiz, du mercure; des maladies des yeux & de la peste*" Paris 1725 which was translated into English : "*The hospital surgeon. Vol.2: Diseases of the eyes and the pestilence*" London 1733. Albert

Belmonte, Carlos (1943) Spanish Vision Scientist, Full Professor, University Miguel Hernandez Medical School, Department of Physiology, Campus de San Juan (Spain), (1997). He graduated from the University of Madrid Medical School, Madrid in 1966 with honors and received his M.D. degree. He extended his studies at the Department of physiology, University of Madrid Medical School, Madrid and received a Ph.D. with honors having written the best Doctoral Thesis in 1969 (*El control nervioso de la presión y la circulación intraoculares*, An. Ins. Farm. Esp. XVII-XVIII, 77-332 (1968-1969). He received a NIH International Postdoctoral Fellowship and conducted research at the Department of Physiology, University of Utah, Medical College, Salt Lake City, Utah (USA), 1971-1973. His academic appointments have been Full Professor and Chairman, Department of Physiology Medical School, University of Valladolid, Valladolid (Spain), (1973-1980) and Full Professor and Chairman, University of Alicante Medical



Charles Bell

School, Department of Physiology, Campus de San Juan (Spain), (1980-1997), then to the present position as above. Due to his expertise, he has served as Visiting Professor to many Universities in Spain and abroad, e.g., Visiting Scientist, Prince of Wales, Medical Research Institute, Sydney, Australia. Visiting Professor of Neurobiology, Harvard University, Boston, MA, USA (1997), Adjunct Professor of Ophthalmology, Univ. of Utah Medical School, Salt Lake City, UT (USA), (1986-), Associate Scientist, The Cooperative Research Center for Eye Research and Technology, University of New South Wales, Sydney, Australia (1990-), Visiting Senior Scientist, Eye Research Institute of the Retina Foundation, Boston, MA (USA), (1985-1986), Visiting Professor of Ophthalmology, University of Harvard, Boston, MA, USA (1985), Visiting Professor, University of Utah, Medical College, Department of Physiology, Salt Lake City, Utah (USA), (1975) and Visiting Research Assistant Professor, University of Utah, Medical College, Dept. of Physiology, Salt Lake City, Utah (USA), (1972-1973). He also gave many invited lectures at international meetings. He has been elected to many administrative positions of Institutions, and some examples are Director, Instituto de Neurociencias, University Miguel Hernández, Spain, (1997 -), Director, Instituto de Neurociencias, University of Alicante, Spain, (1990-1997), Dean, University of Alicante, Medical School, Alicante, Spain, (1983-1985) and Vice-president, University of Alicante, Alicante, Spain, (1980-1983). He has served as Editor of many scientific journals, e.g. *Educación Médica* (1998-), *Experimental Eye Research* (1990 -), *Primary Sensory Neuron* (1995-), *The European Journal of Neuroscience* (1989-), *Sístole* (1992-), *Dolor* (1994-), *Revista Clínica Española* (1986-), *Revisión de Biología Celular* (1983-1987), *Revista Española de Fisiología* (1975 1998), *Tempo Ophthalmol.* (1998-) and *inSight Editorial* (1998-). He has held key positions in many National and International Scientific Societies, e.g. General Secretary of the International Brain Research Organization (IBRO) (1997-); Member of the Governance Committee (1996-1998), and Member of the Publication Committee (1996-1998) of the Association for Research in Vision and Ophthalmology (ARVO); Helen Keller Eye Research Foundation, Member of the Committee Helen Keller Prize (1994-); International Society for Eye Research, President (1992-1996), President-Elect (1990-1991), Secretary (1988-1991), Member of the Council (1985-1987), Academia Europaea Neuroscience Subject Committee (1994-), Section Committee for Physiology and Medicine to the President of Academia Europaea 1996; Sociedad Española de Neurociencias, President (1991-1993), President-Elect (1989-1991), Sociedad Española de Educación Médica, President (1987-1991), Vice-president (1982-1987), International Society on Arterial Chemoreception, Country Representative for Spain (1987-1993) and Member of the Instituto de Estudios Alicantinos, (1981 - 1983). His research areas are Sensory and autonomic innervation of the eye, ocular pain; nervous influences on aqueous humor dynamics and intraocular pressure, neurobiology of sensory receptors, (arterial chemoreceptors, baroreceptors, photoreceptors and nociceptors), interactions between sensory receptors and their target tissues, neurobiology of peripheral pain and neurogenic inflammation. He has published many original papers and contributed chapters to books, he edited books and wrote many books in his specialities. Some examples of his recent publications are "Acosta, M.C., Gallar, J., Belmonte, C. (1999). *The influence of eye solutions on blinking and ocular comfort at rest and during work at video display terminals*. *Exp. Eye Res.* 68:663-669", "De Felipe, C., González, G.G., Gallar, J., Belmonte, C. (1999). *Quantification and immunocytochemical characteristics of trigeminal ganglion neurons projecting to the cornea: effect of corneal wounding*. *Eur. J. Pain.* 3:31-39", "De Felipe, C, Belmonte, C. (1999). *C-Jun expression after axotomy of corneal trigeminal ganglion neurons is dependent on the site of injury*. *Eur. J. Neurosci.* 11:899-906", "Belmonte, C., Acosta, M.C., Schmelz, M., Gallar, J. (1999). *Measurement of corneal sensitivity to mechanical and chemical stimulation with a CO2 esthesiometer*. *Invest. Ophthalmol. Vis. Sci.*, 40-2:513-519" and "*Neurobiology of Nociceptors*, C.Belmonte, F. Cervero. Eds. Oxford University Press, (1996)". For the excellence of his research and for his meritorious service, he received many awards and prizes: some examples are the Golden Medal of the University of Alicante, Alicante, Spain (1984), Prize "Alberto Sols" for a research career of the Valencian Community, Spain (1991), National Prize "Rey Jaime I" for Research in Neurosciences. (Presented by the King of Spain) (1992), First National Prize for a Research Career "Cátedra Severo Ochoa" (Awarded by the Ministry of Education and Science, Spain) (1995), National Prize on eye

research "Emilio Diaz Caneja", Universidad de Valladolid, Spain (1997), ALCON Award "for the extraordinary contributions to the field of visual research". ALCON Research Institute, USA (1997), International Prize "Endre A. Balazs on Ocular Research". Awarded by the International Society for Eye Research (1998), Recognition to the Biomedical Science in Spain. Fundación de Ciencias de la Salud (1998) and Recognition to the "Ordre National du Lion, République du Sénégal (1999). He is keen on education and directed many Ph.D. dissertations and also serves as a member of many Council and Committees of National and International Organizations including WHO. (Instituto de Neurociencias, Universidad Miguel Hernandez de Alicante, Apdo. 18, Campus de San Juan, E-03550 Alicante, Spain. Telephone: +34-6-591 95 30; Fax: +34-6-591 95 47; Email: carlos.belmonte@umh.es) (SM)

Belt, Edward Oliver (1861-1906) American. Medical education University of Maryland, degree 1886, resident physician Presbyterian Eye, Ear & Throat Hospital in Baltimore until 1888. He studied ophthalmology & otology in London, Paris, Vienna & Berlin. In 1889 Washington where he founded with others the Episcopal Eye, Ear and Throat Hospital. Short time professor for ophthalmology and otology at Howard Medical School. President of the Society of Ophthalmology & Otology in Washington. He died in a railroad accident in Terra Cotta, (District Columbia) together with his two young sons. American Encyclopedia of Ophthalmology, Vol.II (1913).

Ben Vengut de Salerno *see* **Graphus**

Bendz, Jacob Christian (1802-1858) Danish military surgeon. Bendz received his M.D. at the University of Copenhagen in 1836 and served as staff surgeon in the Danish army during campaigns in Schleswig. He made important observations of military ophthalmia (trachoma): "*Quelques considérations sur la nature de l'ophthalmie militaire*" Copenhagen 1858. Albert

Benedek, George B. (1928-) American Physicist, Alfred H. Caspary Professor of Physics and Biological Physics, Massachusetts Institute of Technology, Member of the Faculty of the Harvard-MIT Division of Health Sciences and Technology. He received B.S. (Physics) from Rensselaer Polytechnic Institute, Troy, New York, in 1949, A. M. (Physics) from Harvard University, Cambridge, MA. in 1952 and Ph.D. (Physics) from Harvard University, Cambridge, MA. in 1953. Subsequently, he served as Staff Member, Solid State Research Group, Lincoln Laboratory, Massachusetts Institute of Technology (1953 - 1955), Lecturer in Solid State Physics, Harvard University (1955 - 1957), Assistant Professor of Applied Physics, Harvard University (1958-1961), Associate Professor of Physics, Massachusetts Institute of Technology (1961-1965), Consultant in Physics to Cornea and Retinal Research Units, Retina Foundation, Boston, MA. (1968-1991), Lecturer in Physics, Faculty of Medicine, Harvard University (1975-1985), Professor of Physics, Massachusetts Institute of Technology (1965-1979) and he is Alfred H. Caspary Professor of Physics and Biological Physics, Massachusetts Institute of Technology (1979 - Present). He has fulfilled many professional and public duties, and some examples are Co-Chairman (with James Adelstein, M.D.) National Academy of Sciences and Institute of Medicine Committee to Promote Research Collaboration between the Physical Sciences and Engineering, and the Biological Sciences and Medicine, August 1987 - January 1990, Member Selection Committee to the Pisart Vision Award, New York Association for the Blind, January 1985 - September 1989, Member of the Vision Research Program Committee of the National Eye Institute, July 1983 - June 1987, Member of the Advisory Committee for Physics of the National Science Foundation, December 1, 1983 - November 30, 1986, Member of the Board of Editors, Biophysical Journal (1975 - 1978) and Member of the Governing Board, American Institute of Physics (1971 - 1974). His major research interest covers a wide area that embraces nuclear magnetic resonance, high pressure physics, semiconductor physics, shock waves, critical phenomena in ferromagnets and fluids, quasisiastic light scattering spectroscopy, theory of transparency of the eye, physico-chemical basis of lens opacification, enzyme physics, sol-gel transition for polyfunction molecules, self-assembly and growth of micelles, phase transitions in micellar and protein solutions, fibrillogenesis of beta amyloid, and the self-assembly of chiral amphiphiles into helical ribbons. Some examples of his books in these fields are: 1. *Magnetic Resonance at High Pressure*, John Wiley and Sons, New York (1963), 2.

Intraocular Light Scattering: Theory and Clinical Application (with David Miller), Charles C. Thomas, Springfield, Illinois (1973), 3. *Physics: With Illustrative Examples from Medicine and Biology*, (with Felix Villars) Volume I - Mechanics, Addison-Wesley, Reading, MA (1973), 4. *Physics: With Illustrative Examples from Medicine and Biology*, (with Felix Villars) Volume II - Statistical Physics, Addison Wesley, Reading, MA (1973), 5. *Physics: With Illustrative Examples from Medicine and Biology*, (with Felix Villars) Volume III - Electricity and Magnetism, Addison-Wesley, Reading, MA (1979), 6. Japanese Translation of *Physics: With Illustrative Examples from Medicine and Biology*, Volumes I, II, III. Translated by T. Matsubara, published by Yoshioka Shoten (1981), 7. *Physics: With Illustrative Examples from Medicine and Biology*, (with Felix Villars) Volume I: Mechanics, 2nd edition, Springer-Verlag, New York, NY (2000), 8. *Physics: With Illustrative Examples from Medicine and Biology*, (with Felix Villars) Volume II: Statistical Physics, 2nd edition, Springer-Verlag, New York, NY (2000) and 9. *Physics: With Illustrative Examples from Medicine and Biology*, (with Felix Villars) Volume III: Electricity and Magnetism, 2nd edition, Springer-Verlag, New York, NY (2000). On the basis of his expertise in Physics, he has conducted extensive studies of the eye and published many papers. Some of the recent papers are: Canwen Liu, Jayanti Pande, Aleksey Lomakin, Olutayo Ogun, and George B. Benedek, "Aggregation in Aqueous Solutions of Lens-crystallins: Special Role of Γ s", Invest. Ophthalmol. and Vision Sci. 39, 1609-1619 (1998); Neer Asherie, Jayanti Pande, Aleksey Lomakin, Olutayo Ogun, Stacy R.A. Hanson, Jean B. Smith and George B. Benedek, "Oligomerization and Phase Separation in Globular Protein Solutions", Biophys. Chem. 75, 213-227 (1998); George B. Benedek, Jayanti Pande, George Thurston and John I. Clark, "Theoretical and Experimental Bases for the Inhibition of Cataract", Progress in Retinal and Eye Research 18, 391-402 (1999); Aleksey Lomakin, Neer Asherie and George B. Benedek, "Aeolotropic Interactions of Globular Proteins: The Effect on the Phase Diagram", Proc. Nat'l. Acad. Sci. USA 96: 9465-9468 (1999) and Ajay Pande, Jayanti Pande, Neer Asherie, Aleksey Lomakin, Olutayo Ogun, Jonathan King, Nicolette H. Lubsen, David Walton and George B. Benedek, "Molecular Basis of a Progressive Juvenile-Onset Hereditary Cataract", Proc. Nat'l. Acad. Sci. 97: 1993-1998 (2000). He is a recipient of many honor awards that include the 1997 Proctor Medal Award by ARVO, The Association for Research in Vision and Ophthalmology (G.B. Benedek, "Cataract as a Protein Condensation Disease", The 1997 Proctor Lecture, IOVS 38, 1911-1921, 1997), Professeur Invité, Troisième Cycle de la Physique, En Suisse Romande, University of Lausanne, Institute of Experimental Physics, Lausanne-Dorigny, May 29-June 12, 1997, the American Physical Society 1995 Irving Langmuir Prize in Chemical Physics, Science Pour l'Art Award, Louis Vuitton Co., LVMH Moët Hennessy (1995), Visiting Professor of Medicine, Harvard University (July 1, 1993 - June 30, 1994), National Eye Institute MERIT Award for Cataract Research Studies (June 1990), Guest Professor at the Institute for Polymers, E.T.H. Zurich, Switzerland (June - July 1990), Fellow of the American Association for the Advancement of Science (February 1988), Alcon Research Institute Recognition Award "For Outstanding Contributions to the Field of Vision Research" (March 1987), Walker-Ames Professor, University of Washington, Seattle (October 4-13, 1984), Fellow of the American Academy of Arts and Sciences (May 1984), Member of the Institute of Medicine of the National Academy of Sciences (August 1983), Member of the National Academy of Sciences (May 1981), Guest Professor of Physics, E.T.H. Zurich, Switzerland (June 1980), Guest Professor of Physics, E.T.H. Zurich, Switzerland (January - July 1978), Visiting Professor of Physics, University of California at Santa Barbara (January - June 1977), Debye Lecturer in Chemistry, Cornell University (1972), Professorial Fellow in Theoretical Physics, Atomic Energy Research Establishment, Harwell, England (1967), Visiting Guest Lecturer at Ecole Normale Supérieure, Paris (April 1967), Fellow of American Physical Society (1962) and John S. Guggenheim Fellow at Stanford University, Stanford, CA (1960). (Massachusetts Institute of Technology, 77 Massachusetts Ave, Cambridge MA 02139, U.S.A., Phone: +1-617-253-4828; Fax: +1-617-225-2585; e-mail : benedek@mit.edu)

Benedict, Traugott Wilhelm Gustav (?-1862) German. Studied medicine at Leipzig. Appointed professor of surgery and ophthalmology in 1812, a position he held for nearly 50 years until his death 1862. Benedict was the first to declare the etiologic relationship between cataract and diabetes. Ophthalmic writings: "*Dissertatio de Morbis Humoris*

Conformatione Libellus(Leipzig 1809); *De Pupillae Artificialis Conformatione Libellus* (Leipzig 1810); *De Morbis Oculi Inflammatoris Libri XXIII* (Leipzig 1811); *Handbuch über die Erkenntniss und Heilung der Augen-Entzündungen* (Leipzig 1814); *Beiträge für Praktische Heilkunde und Ophthalmiatrik* (Leipzig 1812); *Monographie des Grauen Stares* (Breslau 1814); *Handbuch der Praktischen Augenheilkunde*, 5 volumes(Leipzig 1822-25); *Klinische Beiträge aus d. Gebiet der Wundarzneikunde u. Augenheilkunde* (Breslau 1837); *Abhandlung aus d. Gebiet der Augenheilkunde* (2 volumes) (Breslau 1842-1845). American Encyclopedia of Ophthalmology,pp.930. Albert

Benedict, William Lemuel (1885-1969) American ophthalmologist, president of the Ophthalmic Publishing Company and a member of the editorial board of the American Journal of Ophthalmology. Benedict was born in Springport, Indiana. He was named a director of the Ophthalmic Publishing Company in 1929. He was named vice president of the Ophthalmic Publishing Company in 1939 and president in 1951. He became a member of the editorial board in 1937. He served on the editorial board of the *Archives of Ophthalmology* from 1939 to 1960 and was editor-in-chief of the *Transactions of the American Academy of Ophthalmology and Otolaryngology* from 1940 to 1968. Benedict was the head of the Section of Ophthalmology of the Mayo Clinic from 1917 to 1949 and was president of the staff of the Mayo Clinic from 1932 to 1935. He became a senior consultant in 1949, and retired from the Mayo Clinic 1950. He served as assistant professor of ophthalmology in the Mayo Graduate School of Medicine of the University of Minnesota at Rochester in 1917, was advanced to associate professor in 1918 and to professor in 1921. He retired from the University of Minnesota in 1951 and received a Certificate of Merit in 1952. Benedict attended the Spiceland Academy in Spiceland, Indiana, in 1904 and entered the University of Michigan in 1906, and graduated from the Department of Medicine and Surgery, now the University of Michigan Medical School, in 1912. He served the next two years as an assistant in the Department of Ophthalmology at the University Hospital in Ann Arbor and in the private office of Prof. Walter R. Parker in Detroit. In 1942 he became executive secretary treasurer of the American Academy of Ophthalmology and Otolaryngology, a position he held until 1968. He was a member of the Board of Directors of the National Society for the Prevention of Blindness since 1940, served as chairman of its Research Committee and was vice president from 1950 to 1953. He was president of the American Ophthalmological Society in 1954 and received the Howe Medal of the Society in 1964. He was chairman of the Section of Ophthalmology of the American Medical Association 1936-1937 and delegate from the section to the House of Delegates of the American Medical Association from 1949 to 1957. He was a member of the American Board of Ophthalmology from 1936 to 1944 and was a consultant from 1947 to 1959 when he was elected emeritus member of the Board. AJO 1969,67:602-603; BJO 1969,53:719

Benedictus, Alexander *see* **Benedetti**.

Beneventus *see* **Grapheus**

Benevoli, Antonio (1685-1756) Italian surgeon and professor of surgery at Florence, practicing at Santa Maria Nuova Hospital. He acquired a great reputation in both ophthalmologic and urologic surgery. He was the author of: "*Lettera d'Antonio Benevoli cerusico e maestro nel linomatissimo spedale di S. Maria Nuova - della città di Firenze sopra due osservazioni fatte intorno alla cateratta*" Firenze 1722; "*Nuova proposizione intorno alla caruncola dell'uretra detta carnosita ... sopra la cateratta glaucomatosa.*" Firenze 1724 and "*Dissertationi. I. Sovra l'origine dell'ernia intestinale finora non stata avvertita. II. Intorno all più frequente cagione dell'iscuria III. Sopra il leucoma, detto volgarmente maglia dell'occhio*" Firenze 1747. Albert

Bennett, Hugh Percy (1863-1952) British ophthalmologist, born in 1863 at Redcar. Bennett graduated M.B., C.M. from the University of Edinburgh in 1893, and having completed his house appointments in Edinburgh, became a clinical assistant at Moorfields. He then practised ear, nose, and throat surgery, as well as ophthalmology, at South Shields, and later moved to Newcastle where he devoted himself exclusively to eye work, having become a colleague of A. S. Percival on the honorary staff of the Northumberland, Durham, and Newcastle Eye Infirmary. Here he later held the post of senior ophthalmic surgeon until his retirement in 1934. Bennett performed valuable work as an ophthalmic

referee under the Workmen's Compensation Act, belonged to the North of England Ophthalmological Society and the Ophthalmological Society of the United Kingdom, and was elected vice-president of the ophthalmological section at the annual meeting of the British Medical Association held in 1921 at Newcastle upon Tyne. His eponymous epilation forceps are still in use to-day. BJO 1952,36:655-656

Bennett, Jack Winn (1932-2000) American optometrist of Bloomington. Bennett was born and raised in Bloomington, Indiana. He graduated from Bloomington High School. He attended Indiana University for two years prior to going into the U.S. Army for 3 years during the Korean War where he served as an optical technician. He then returned to Indiana University receiving his Bachelor of Science degree in Optometry in 1958 and Master of Optometry degree in 1959. Bennett practiced optometry in Bloomington from 1959 until 1970 when he became an Associate Professor of Optometry and Director of Patient Care at the Indiana University School of Optometry. He was on the Indiana University faculty until he became the founding dean of the College of Optometry at Ferris State University in Michigan. He developed the optometry program in Michigan and was the dean there until 1988. In addition to being the dean of the optometry program he also served at different times as the Executive Assistant to the President and Vice President for Administrative Affairs at Ferris State University. In 1988 Dean Bennett returned to Indiana University as Dean of the School of Optometry, where he served until he retired from the position in 1998 when he became Dean Emeritus. Following his retirement from the dean's position at Indiana University, he was recruited to take the position of Dean of the School of Optometry at the University of Missouri, St. Louis. He held this position from January 1999 until April 2000. Dean Bennett was very active in professional organizations serving on many state and national committees. He served as president of the Indiana Optometric Association from 1968 to 1970 and a member of the Board of Trustees of the American Optometric Association from 1974 until 1979. He was president of the Michigan Association of Professionals. He also served as president of the Association of Schools and Colleges of Optometry and on various boards of directors including the Indiana Society for the Prevention of Blindness; the International Library, Archives and Museum of Optometry; Indiana Chapter of the American Academy of Optometry; and the American Optometric Foundation. He was a Distinguished Practitioner of the National Academies of Practice and a Fellow of the American Academy of Optometry. He received many awards including Distinguished Service to Optometry, Meritorious Service, and the Lifetime Achievement Awards from the Indiana Optometric Association; Indiana Optometrist of the Year; Professional Man of the Year from the Michigan Association of the Professions; and named a Sagamore of the Wabash by Indiana Governor Frank O'Bannon. JPW

Benoit, Francois (1865-1929) Belgian ophthalmologist. Benoit was resident in Utrecht with Snellen before working in Liège under Nuel on the circulation of the intraocular fluids (published in 1899). He wrote also, among many other papers, on the *role of the aqueous humour in endogenous iritis* (1897), and, with Brachet on *regeneration of the lens in urodele amphibians* (1899). (Verriest)

Benson, Arthur H. (1852-1912) Irish ophthalmologist. Educated at Trinity College in Dublin, where he graduate as bachelor of medicine in 1872. He studied for a few years under prominent ophthalmologists on the continent of Europe, became 1881 the Fellow of the Royal College of Surgeons in Ireland and was appointed ophthalmic surgeon to the Royal City of Dublin Hospital. For many years he was examiner in ophthalmic medicine and surgery at the University of Dublin. He served as vice-president of the Ophthalmological Society of the United Kingdom from 1901-1903 and was president of the Pathological Section of the Royal Academy of Medicine in Ireland from 1909-1911. *The Ophthalmoscope*, 1912,p.740-741.

Benvengut *see* **Grapheus**

Berar, Ladislav (1919-1980) Israeli ophthalmologist, born in Romania. Berar began his studies in France in 1937. He was deported to the concentration camp of Auschwitz and freed by the American army in April 1945. Berar returned to Romania to finish his studies and, in 1948 moved to Israel. Berar was a collector of postage stamps related to vision. He wrote a book about it, that appeared, 7 years after his death, edited by Rudolf Zewell: *Das Auge als Motiv* Frankfurt 1987. JPW

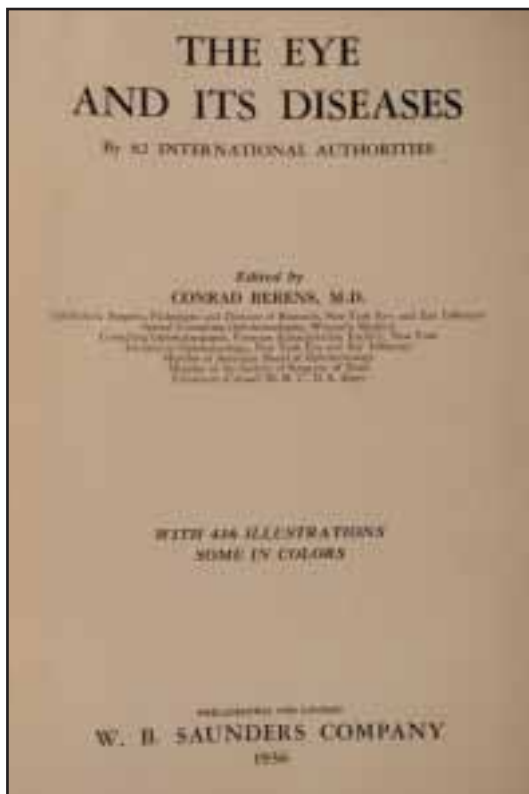
Bérard, Auguste, Junior (1802-1846) French surgeon. Brother of Frédéric-Joseph Bérard. Under the supervision of his brother, was educated at Angiers. In Paris he became intern, assistant in anatomy and prosector of the Faculty. He received his MD in 1829. Bérard became a famous surgeon and wrote numerous articles mostly in *Annales d'Oculistique* between 1841 and 1846. American Encyclopedia of Ophthalmology, pp.93

Béraud, Bruno Jacques (1825-1865) French physician. He authored : "*Recherches sur la tumeur lacrymale.*" Paris 1855.

Berens, Conrad (1889-1963) American ophthalmologist. Conrad Berens, the son of an ophthalmologist, was born in Philadelphia, Pennsylvania, attended the Protestant Episcopal Academy in Philadelphia and was graduated in medicine from the University of Pennsylvania in 1911. He served as an interne in medicine and surgery in the Pennsylvania Hospital, Philadelphia, 1911-1913 and as a house surgeon in ophthalmology at the New York Eye and Ear Infirmary, 1913-1915. Berens was executive director of the Eye Department of the New York Eye and Ear Infirmary for many years and established the

Research Division and Orthoptic Clinic at the Infirmary with the aid of the Ophthalmological Foundation, Inc. He was one of the founders of the graduate course in ophthalmology at the New York University Post Graduate Medical School and served as professor of clinical ophthalmology, Columbia University, from 1943 to 1946. At the time of his death, he was consultant in ophthalmology to the Glen Cove Community Hospital and the Nassau Hospital on Long Island; the New York Eye and Ear Infirmary, St. Clare's, French, Midtown and Lenox Hill hospitals and a member of the Medical Board of Doctors Hospital in New York City. As a clinician and surgeon, Dr. Berens was one of the leaders in this country and at the height of his career he maintained a large office with five ophthalmic associates and nine ancillary aids. The Berens Clinic at the New York Eye and Ear Infirmary was for many years one of the most outstanding and progressive in the country. For the first time in New York, he developed a systematic survey of the patient before treatment or surgery of the eye was considered. He emphasized bacteriologic studies and other routine tests to associate the eye complaint with the body as a whole. His interest in asthenopia and muscle anomalies led to the introduction of prisms in the clinic and the eventual founding of the Orthoptic Department and School at the Infirmary. Due to his experience as one of the founders of the original School of Aviation Medicine of the U.S. Army Signal Corps during World War I, Berens developed a keen appreciation of functional testing of the eyes and devised numerous instruments for the evaluation of visual function. Among his contributions were: accommodation devices, the American Board of Ophthalmology prism bars, tangent screens, vision charts and numerous other aids. In order to test these devices, a research department was necessary and was

established at the hospital under his supervision. Various new surgical instruments, such as keratomes, scissors, retractors, needle holders and forceps were introduced in the operating room. The introduction of sterile rubber gloves in the operating room of the Infirmary and the use of corneoscleral sutures after cataract extraction were first required on the Berens service. He devised several modifications of operations, such as the retroplacement operation for strabismus, intrascleral implant after evisceration and others described in papers or textbooks. An iridocorneosclerectomy operation with the aid of the Berens punch, a technique of cataract extraction with a special suture and the use of cycloelectrolysis for glaucoma were described in the textbook on surgery by Berens and King. Berens was a prolific writer and contributed valuable material to ophthalmic literature. He was the editor in ophthalmology for several medical journals. His greatest contribution was a textbook, *The Eye and Its Diseases*, (1936), which was used almost universally by the Armed Forces during World War II and has since been revised and reprinted (Second edition was 1949). He also wrote *Diagnostic Examination of the Eye* (1946) He collaborated with other authors in the presentation of textbooks on external eye diseases and surgery (with John Harry King, Jr.: *An Atlas of Ophthalmic Surgery*, Philadelphia 1961; with Michel Loutfallah *Ocular Surgery*, 1950; with Benjamin J.



Sheppard *Abstracts on Military and Aviation Ophthalmology and Visual Sciences*, Washington 1953; with Ed Siegel *Encyclopedia of the Eye Diagnosis and Treatment* (1950). Although an outstanding teacher, Berens introduced many aids to emphasize his lectures such as the use of colored slides and "movies" before they were in general use. It was only natural that he would be asked to organize one of the best graduate courses in ophthalmology in the United States, namely, the course at New York University Post-Graduate Medical School. His long service as a member and president of American Board of Ophthalmology showed him the deficiencies of many of the courses and he was able to avert them at New York University. At least two great organizations, the Association for Research in Ophthalmology and the Pan-American Association of Ophthalmology, owe, in a great part, their success to the efforts of Conrad Berens and his friends. He served as president of the American Ophthalmological Society, the New York Ophthalmological Society, the American Academy of Ophthalmology and Otolaryngology, the American Board of Ophthalmology, the New York County Medical Society and was chairman of the Section of Ophthalmology of the New York State Medical Society, the New York Academy of Medicine and the American Medical Association. He was vice president of the International Council of Ophthalmology, the International Society for the Prevention of Blindness and representative of the United States to the French Ophthalmological Society. He was president of the Section of Ophthalmology of the Pan-American Medical Association and honorary member of the Ophthalmological Societies of Mexico, Peru, Chile, Brazil, Cuba and Uruguay. He also served as director of the New York Association for the Blind, and on the board of directors of the National Society for Prevention of Blindness and the Seeing Eye. He was also a member of the American College of Surgeons and the Illuminating Engineering Society of America. Berens served as a first lieutenant in the Medical Corps in France in World War I and was retired as a lieutenant colonel in the reserve in 1924. He became National Civilian Consultant to the Air Surgeon of the U.S. Army during World War II and visited many installations including the School of Aviation Medicine. After the war, he served as consultant to the Surgeon General of the Air Force for the conventional two terms prescribed by the consultants. AJO 1963,55:1081;1086-1089. AJO 1963, 55:1081-1089

Berenstein (1865-1901) Russian. Received his degree at Dorpat. He studied ophthalmology with Julius→Hirschberg and H.→Leber in Heidelberg. American Encyclopedia of Ophthalmology, Vol.2, p.935.

Berger, Emil (1855-1926) Austrian ophthalmologist, born in Vienna, who studied ophthalmology under Jaeger, in Halle under Alfred→Graefe, and in Berlin under Julius→Hirschberg, before settling in Paris in 1887. Here he opened an eye clinic, where he investigated and lectured on diseases of the eye, being particularly interested in the relationships between these diseases and general pathology. He also invented a corneal loupe and wrote: *Beiträge zur Anatomie des Auges in normalen und pathologischem Zustände* Wiesbaden 1887 and *Les maladies des yeux* Paris: G. Masson, 1892. Albert

Berggren, Lennart (1927-) Swedish Ophthalmologist. Born in Stockholm where he qualified in medicine at the Karolinska Institute. Moved in 1954 to Uppsala and professor Bány's Department of Pharmacology. He was awarded the Doctorate of Science in 1960 with a thesis on aqueous humor formation and outflow and was an Assistant Professor of Pharmacology the following six years. His clinical ophthalmological education took place in Stockholm, Umeå and Uppsala where he was Professor of ophthalmology 1974-1991. The scientific contributions deal mainly with experimental and clinical glaucoma and ocular pharmacology. His studies (together with O. Hansson) on the adverse ocular effects of hydroxy-quinoline antiseptics were of crucial importance in establishing their causal connection with the Japanese epidemic of subacute myelo-optic Neuropathy (SMON).

Berkeley, George, Bishop of Cloyne (1685-1753) Irish. He entered the Trinity College in Dublin at the age of fifteen and was elected a fellow there in 1707. His college was at that time feeling the influence of Isaac→Newton and Robert→Boyle. He founded 1705 a society for the discussion of the New Philosophy. He wrote two small treatises on mathematics before his important work "*An Essay towards a New Theory of Vision*" which was published in 1709. American Encyclopedia of Ophthalmology, pp.936-939; Concise Dictionary of National Biography, Oxford 1921, p.94; Albert

Berkowitz, Bruce A. (?) American scientist. B.A., Chemistry, University of Rochester, Rochester, NY, 1978-1982. B.A., Philosophy, University of Rochester, Rochester, NY, 1978-1982. M.A., Chemistry, Washington University, St. Louis, MO, 1982-1984. Ph.D., Physical Chemistry, Advisor: Joseph J.H. Ackerman, Washington University, St. Louis, MO, 1984-1987. Berkowitz had the following appointments: Staff Fellow, Lab Director: Robert Balaban, National Institutes of Health, National Heart, Lung, and Blood Institute, Bethesda, MD, 1987-1989; Staff Fellow, Lab Director: Robert London, National Institutes of Health, National Institute of Environmental Health Science, Research Triangle Park, NC, 1989-1990; Senior Staff Fellow, Lab Director: Robert London, National Institutes of Health, National Institute of Environmental Health Science, Research Triangle Park, NC, 1990-1992; Research Assistant Professor, Ophthalmology/Radiology/Biomedical Engineering, University of Texas Southwestern Medical Center, Dallas, TX, 1992-1996; Associate Professor, Anatomy/Cell Biology and Kresge Eye Institute, Wayne State University School of Medicine, Detroit, MI, 1996-present. He published following book chapters: B.A. Berkowitz and R.S. Balaban: *Two dimensional nuclear magnetic resonance studies of enzyme kinetics and in vivo metabolites*, in *Methods in Enzymology*, Academic Press, (eds. N.J. Oppenheimer and T.L. James), 176, 330-494 (1989). B.A. Berkowitz: *Two-dimensional correlated spectroscopy in-vivo*, in *NMR - Basic Principles and Progress*, Springer press, (eds. P. Diehl, E. Fluck, H. Gunther, R. Kosfeld, and J. Seelig), 27-223-236 (1992) and numerous papers. Address: Department Anatomy/Cell Biology , Wayne State University, School of Medicine , Detroit, MI 48201(USA)
Email: baberk@med.wayne.edu (JPW)

Berlin, Rudolf (1833-1897) German neurologist. He studied in Göttingen, Würzburg, Berlin and Erlangen where he received his medical degree. He was for a certain time assistant at → Pagenstecher's private clinic in Wiesbaden, later of Bruns at the Surgical Clinic at Tübingen. He wrote several ophthalmic articles in *A.v.Graefe's Archiv für Ophthalmologie*, in *Klin. Monatsblätter für Augenheilkunde* and in Graefe-Saemisch's *Handbuch der Augenheilkunde*. He wrote with S. Rembold: "*Untersuchungen über den Einfluss des Schreibens auf Auge und Körperhaltung des Schulkindes*" Stuttgart 1883. American Encyclopedia of Ophthalmology, pp.939-40. Daniel M. Albert, [GM 5907].

Bernard le Provençal (12th century) A French wandering oculist probably born at Arles who studied at Montpellier. He was a pupil of the famous Salernus. He wrote a "Commentary" on his teacher's "*Tabulae*". Bernard's "comments" are extremely interesting. The oculistic part of it is rather scanty. American Encyclopedia of Ophthalmology, vol.2, p.941.

Bernard, P.(?-?) French. Parisian oculist who flourished about the middle of the 19th century. He wrote 4 papers in the *Annales d'Oculistique*, vol.7-9 & 14. American Encyclopedia of Ophthalmology, p.941.

Bernheimer, Stefan 1861-1918) born in Trieste, studied ophthalmology in Vienna (M.D., 1892) and in Heidelberg under Otto Becker. He was professor of ophthalmology at the University of Innsbruck from 1900 to 1915, and afterward director of the eye clinic at the University of Vienna. Bernheimer's experimental studies concerned the pathways of the optic nerves and of the motor innervation of the eyes; his clinical contributions were in the treatment of tubercular and gonorrhoeal conjunctivitis. "*Über die Sehnerven-Wurzeln des Menschen*" Wiesbaden 1891. Albert.

Bernstein, Johann Gottlob (1747-1835) German surgeon who paid considerable attention to ophthalmology. For a certain time he wandered as a barber's assistant through Austria and Germany. Later he sailed as a ship-surgeon on a 4 ? months cruise to Greenland. Returning to Germany he practised for many years in Ilmenau. In 1806 he moved to Jena and 1810 to Berlin where he taught and practised surgery for many years. Bernstein published 1793 his "*Chirurgisches Lexicon*" in which nearly ninety articles on ophthalmology can be found. Many editions followed. It should be noted that the ophthalmological part in the fifth edition was written by Chr.Fr.Heinrich Busse from Berlin in 1818. Bernstein published 1822 a "*History of Surgery*" which contained an appropriate share on ophthalmology. American Encyclopedia of Ophthalmology, vol.2, p. 941-942.

Berry, George (Sir George) Andreas (1853-1940) Scottish ophthalmologist. George Berry was the eldest son of Walter Berry of Glenstriven, Argyllshire. He was educated at Marlborough and at Edinburgh. He studied mathematics under Professor Tait, and became one of the six members of Tait's Senior Class, where he developed his remarkable knowledge of this subject. He graduated M.B., C.M. at Edinburgh in 1876, and in 1881 became a Fellow of the Royal College of Surgeons of Edinburgh. Before beginning practice George Berry prosecuted his special studies in ophthalmology for some years in various Universities and Hospitals. In Copenhagen he worked with his distinguished uncle, Professor Hansen Grut, who later became Bowman Lecturer of the Ophthalmological Society of the United Kingdom in 1889, and for whom he retained throughout his life the greatest admiration and regard. He also studied in France, Austria, Germany and Holland at this period of his career. While he was House Surgeon at Moorfields Eye Hospital, London, in 1878 and 1879, Berry was one of the moving spirits in the formation of the Ophthalmological Society of the United Kingdom, which was founded in 1880. Throughout his lifetime he took the greatest interest in this Society, of which he was an Original Member. While still a comparatively young man he was recognized as an authority in ophthalmology, and enjoyed a high reputation on the Continent and in America, as well as at home. He was the author of a textbook entitled: "*Diseases of the Eye-A Practical Treatise for Students of Ophthalmology.*" Edinburgh 1889. This textbook was referred to by many of the leading continental Professors of Ophthalmology as being not only an exhaustive treatise, but also distinguished by many original observations and ideas. It was widely used as a standard work for many years after its publication. The second edition appeared in 1893. The terms of the dedication of this book, to Edmund Hansen Grut, M.D., show the keen appreciation, the enthusiasm and the loyalty which were essentially characteristic of Berry. Two monographs from his pen were also much appreciated and widely used: "*Subjective Symptoms in Eye Disease*" 1886 and "*Ophthalmoscopic Diagnosis.*" That on subjective symptoms, published in 1886 was especially, interesting and characteristic. He was a well known figure at the meetings of the Ophthalmological Society of the United Kingdom, and was Member of Council from 1889 to 1892; Vice-President from 1895 to 1898 ; and President from 1909 to 1911. In 1917 the Society, paid him the highest honour by electing him to be Bowman Lecturer. He was a member of the British Medical Association for many years. He was awarded the Middlemore Prize in 1886, and was Vice-President of the Section of Ophthalmology in 1889 and 1898, and President in 1905. Berry served on the Staff of the Eye Department of the Royal Infirmary, Edinburgh, for 23 years, and retired from the position of Senior Surgeon of the Department in 1905. He was a Fellow of the Royal Society of Edinburgh; Honorary Fellow of the Royal Academy of Medicine of Ireland; President of the Royal College of Surgeons of Edinburgh from 1910 to 1912; a member of Edinburgh University Court; and a Manager of the Royal Infirmary. During the first War he established and conducted the Ophthalmic Department of the Second Scottish General Hospital, Edinburgh. He was appointed Honorary Surgeon Oculist in Scotland to H.M. King Edward VII, and to H.M. King George V, and in 1916 the honour of Knighthood was conferred upon him. From 1922 to 1931 he was Member of Parliament (Conservative) for the Scottish Universities; at the end of which period he received the Honorary LL.D. of Edinburgh University. His great interest in mathematics was abundantly shown in his textbook and in his contributions to this subject. He possessed a remarkable acquaintance with modern languages and especially with the less generally known Norse tongues, with which he had become familiar in early life. BJO 24,416-418, 1940. Albert. AJO 1940,23:1061-1062

Bersanus, Sebastiano. Italian of the 16th century, author of a book titled "*De Morbo Oculorum*" of little historical value. American Encyclopedia of Ophthalmology, vol.2, p.942.

Berson, Eliot Lawrence (1937) American ophthalmologist, Professor of Ophthalmology, Harvard Medical School and Director of Berman-Gund Laboratory for the Study of Retinal Degenerations. He was born in Boston, Massachusetts and is a graduate of Yale College (B.S., 1958) and Harvard Medical School (M.D., 1962). He did his residency training in ophthalmology from 1963 to 1966 at Washington University School of Medicine under Dr. Bernard→Becker and his postdoctoral fellowship training in retinal

degenerations and electrophysiology from 1966 to 1968 at the National Institute of Neurological Diseases and Blindness, Ophthalmology Branch, under Dr. Ludwig von Sallmann. He joined the Harvard Department of Ophthalmology in 1968 and has served as Instructor (1968–1970), Assistant Professor (1971–1976), and Associate Professor (1976–1982). In 1982 he was appointed the William F. Chatlos Professor of Ophthalmology of Harvard Medical School. He established the Electroretinography Service of the Massachusetts Eye and Ear Infirmary in 1970. In 1974 he founded the Berman–Gund Laboratory for the Study of Retinal Degenerations of Harvard Medical School at the Massachusetts Eye and Ear Infirmary and has served as its Director since that time. The Berman–Gund Laboratory was the *first* multidisciplinary laboratory in the world dedicated to the study of retinitis pigmentosa and allied retinal diseases. Major accomplishments include: discovery of the first treatment for the common forms of retinitis pigmentosa, namely 15,000 IU of vitamin A palmitate daily; discovery that delays in the electroretinogram, or ERG, can be used to predict inevitable blindness in patients with retinitis pigmentosa, in some cases more than 50 years in advance; and development of a computerized ERG system that increased the sensitivity of recording by 1,000-fold, thereby allowing retinitis pigmentosa to be followed objectively throughout almost its entire course. In collaboration with his colleague Dr. Thaddeus Dryja, he identified the first gene abnormality responsible for retinitis pigmentosa, rhodopsin, Proline-23-Histidine. As of 1999, 18 genes causing retinitis pigmentosa have been identified around the world; of these, 9 have been detected as a result of this collaboration. He participated in the creation of the first mouse model of human retinitis pigmentosa containing a human mutant gene. This mouse was a model for dominantly inherited retinitis pigmentosa. He also participated in the creation of the first mouse model of human X-linked retinitis pigmentosa. His bibliography lists some 200 publications: some examples are “Dryja, T.P., McGee, T.L., Reichel, E., Hahn, L.B., Cowley, G.S., Yandell, D.W., Sandberg, M.A., and Berson, E.L.: *A point mutation of the rhodopsin gene in one form of retinitis pigmentosa*. Nature 343: 364-366, 1990”, “Berson, E.L., Rosner, B., Sandberg, M.A., Hayes, K.C., Nicholson, B.W., Weigel-DiFranco, C., and Willett, W.: *A randomized trial of vitamin A and vitamin E supplementation for retinitis pigmentosa*. Arch. Ophthalmol. 111: 761-772, 1993” and “Sibulesky, L., Hayes, K.C., Pronczuk, A., Weigel-DiFranco, C., Rosner, B., and Berson, E.L.: *Safety of less than 7,500 RE/day (25,000 IU/day) of vitamin A in adults with retinitis pigmentosa*. Am. J. Clin. Nutr. 69: 656-663, 1999”. Awards include: the Franceschetti Medal of the International Society of Genetic Eye Diseases (1990); the Friedenwald Award of the Association for Research in Vision and Ophthalmology (1992) (Berson, E.L.: *Retinitis pigmentosa: The Friedenwald lecture*. Invest. Ophthalmol. Vis. Sci. 34: 1659-1676, 1993); the Pisart Award of the New York Lighthouse (1993); the Alcon Research Institute Award (1988 and 1997); and the Llura Liggett Gund Award of the Foundation Fighting Blindness (1999). He is a MERIT Awardee of the National Eye Institute and currently serves as the Chairman of the National Eye Institute Board of Scientific Counselors. He has provided training for 25 postdoctoral fellows and over 200 residents. Three of the fellows have become full professors and direct other research centers focused on retinal degenerations. As the Director of the Electroretinography Service of the Massachusetts Eye and Ear Infirmary, Dr. Berson continues to evaluate patients with hereditary retinal degenerations. He continues his research on retinitis pigmentosa and allied diseases on a full-time basis through Harvard Medical School as the William F. Chatlos Professor of Ophthalmology and Director of the Berman–Gund Laboratory for the Study of Retinal Degenerations. (Eliot L. Berson, M.D., Berman-Gund Laboratory, Harvard Medical School, Massachusetts Eye and Ear Infirmary, 243 Charles Street Boston, Massachusetts 02114, USA)(JPW)

Bertherand, Alphonse François (1815-1887) French physician who wrote “*Des plaies d’armes à feu de l’orbite*.” Paris 1851.

Berthold, Arnold Adolf (1803- 1861) German physiologist. Received his medical degree in Göttingen 1823. Studied in Berlin and in Paris, became lecturer and practising physician at Göttingen. He published at Göttingen 1829 a “*Textbook of Human and comparative Physiology*” which had a number of later editions. He became ordinary professor at Göttingen University. He was also very active in the field of ophthalmology and wrote: “*Das Aufrechterstehen der Gesichts Objecte trotz des umgekehrstehenden*

Bildes derselben auf der Netzhaut des Auges" Göttingen 1830."(*The Upright Appearance of the Visual Object in spite of the Inverted Image thereof on the Retina of the Eye.*) This work had a second edition 1834. In 1839 there appeared a work from him causing a great stir in the ophthalmological world: "*The Myopodiorthoticon, or the Apparatus for Healing Short-Sightedness*". The "apparatus" consisted of a frame which prevented the person using it from reading at a less than given distance from his page, and was reajusted from time to time to increase the distance of reading. By this process, Berthold believed he could cure shortsightedness entirely. The system had for a certain time a great vogue and than disappeared. American Encyclopedia of Ophthalmology, vol.2, p.943, Albert

Bertrandi, Giovanni Ambrogio (1723-1765) Italian anatomist, surgeon & ophthalmologist. Born in Turin, general and medical education in his hometown. Thesis : "*Ophthalmographia*", republished later in 1748. Bertrandi received his degree Master of Surgery in 1747. He wrote: "*Traité des opérations de chirurgie*" Paris 1784. After his death, a monumental work was published by his former pupils under the title *Anatomiche e Cerusiche di Ambrogio Bertrandi* (14 volumes!) in which 2 for that time excellent treatises on the diseases of the eyes. American Encyclopedia of Ophthalmology, vol.2, p.944-45.

Bettman, Boerne (1856-1906) American Ophthalmologist from Chicago. Bettman was renowned as an operator. After three years of study under the preceptorship of his father in the Miami Medical College, he received his medical degree in 1877, was for a short time assistant of Elkanah Williams (the first professor for ophthalmology in the United States). For one and a half years he was assistant to Dr. Herman →Knapp and for three years studied in Europe under →Arlt, →Stellwag von Carion, →Jaeger, →Mauthner, →Fuchs, Gruber and Storch in Vienna and then second assistant under Otto →Becker in Heidelberg. Later on he was made *first* assistant to Becker. In 1880 he returned to America and settled in Chicago. He became the first lecturer in ophthalmology and otology in the College of Physicians and Surgeons of Chicago and assisted in the organization of the Chicago Medico-Legal Society. He then was made Professor of Ophthalmology and Otology at the Chicago College of Physicians and Surgeons until near his death. He wrote "*Ocular*

Troubles of Nasal Origin" (J.A.M.A., Jan.17/1887); "*Traumatic Iridodialyses*" (North American Practitioner, Dec.1890) & "*Dislocation of the Lens into Anterior Chamber*" (Chicago Medical Recorder). At the begin of the 20th century there was an operative technique for pterygium called after him , as well as a method of artificial ripening of immature cataract. American Encyclopedia of Ophthalmology, vol.2, p.946-947.

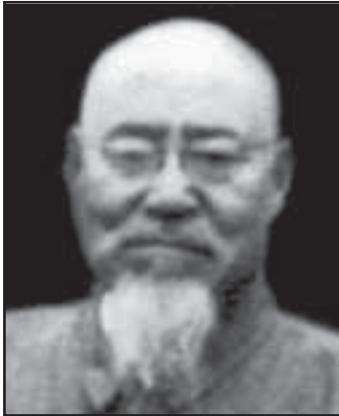
Beuningen, Ernst van (1915-?) German ophthalmologist. University lecturer Tübingen. Director of the Institute for Physiology of the Senses at the Military Academy in Berlin 1942-45, teaching position 1946. Director of the eye department of the Maria Trost hospital 1951-53; lecturer at the University of Tübingen 1954 and from 58 until 1961 at the Frankfurt/Main University. He is the author of : *Atlas der Spaltlampen gonioskopie*, 1955 which was rapidly out of print. He wrote articles about physiology of the senses between 1940-49 in *Graefe's Archiv f. Ophthalmologie*, in *Fortschritte auf d. Geb. der Röntgenstrahlen*, *Zeitschrift für Sinnesphysiologie* and in *Handbuch der med. Radiologie*. Further countless articles between 1949-60 in various German journals. Kürschners Gelehrten- Kalender 1966, p.164. JPW.

Bhargava, Kumar Satish (1939-1991) Indian ophthalmologist who was born in Lahore but moved to Delhi with his family in 1947 on Partition. He was one of the first intake of students at the All India Institute of Medical Sciences from which he qualified in 1962. After an internship there he came to England to take up a casualty officer post at Lister Hospital, Hitchin. He started training in ophthalmology at the West of England Eye Infirmary, Exeter in 1963, continued at the Glasgow Eye

Infirmary 1965, and returned to Exeter as Registrar in 1968. He became senior registrar to the professorial unit at Manchester Royal Eye Hospital in 1971 where he became interested in retinal pathophysiology. On appointment to the consultant staff there in 1975



he developed an electrophysiological diagnostic service and a referral clinic for the management of inherited retinal disorders. Both on his own and in collaboration with the Department of Optometry and Vision Science at the University of Manchester Institute of Science and Technology he was responsible for a steady stream of publications in this field, as well as on colour vision and toxic amblyopia. He was chairman of the medical committee twice in 1981-1983 and 1987-89. He developed close relationship with the School of Orthoptics of which he was medical director from 1986-1989. He frequently examined for the Orthoptic Society as well for the Royal College of Surgeons of Edinburgh, the British Optical Association, and the Ophthalmic Nursing Board. BJO 1992, 254



Chua-de Bi

Bi, Hua-de (1891-1967) Chinese Ophthalmologist, Professor Emeritus of Beijing University Medical School. He graduated from Beijing Union Medical University in 1918, and studied Ophthalmology at the Department of Ophthalmology, University of Vienna during 1924-1925 and received D.med. On home coming he served as Associate Professor at the Department of Ophthalmology, the Union Hospital (1926-1945) and Professor and Chairman of the Department of Ophthalmology, Beijing University Medical School (1946-1966). In the professional societies, he held the following positions: Chairman, Beijing Ophthalmology Association (1932-1949). Chairman, Chinese Ophthalmology Association (1950-1966), Editor of Chinese Medical Journal (1930-1949) and Editor in Chief of Chinese Journal of Ophthalmology (1950-1966). He wrote many books and some examples are *Ophthalmology and Nursing*, *Textbook of Ophthalmology*, *Ophthalmology*, *Workbook of Ophthalmology*, *Dioptrics and System of Ophthalmology* Vol 1 (All published by People's Medical Publishing House).

Bicas, Harley E. A. (1937-) Brazilian ophthalmologist. Bicas was born in Ribeirão Preto, São Paulo, Brazil in 1937. He received his medical degree in 1962 at the Faculdade de Medicina de Ribeirão Preto – Universidade de São Paulo, where he commenced his ophthalmological specialization during the years of 1963-1964. In 1967, Bicas presented his doctoral thesis “*About a new principle of keratometry and its application*” and, in 1972, he presented his Ph.D thesis “*Electro-oculography on the study of ocular motility*”. He became Associate Professor of the Departamento de Oftalmologia da Faculdade de Medicina de Ribeirão Preto in 1977, and Full Professor in 1981. He was elected Head of Department during the years of 1980-1988, 1996-1998 and 2000-2002. He was an Attached Researcher at the Department of Neurophysiology – Institute of Ophthalmology – University of London (1969-1970) and a Visiting Scientist at the Smith-Kettlewell Institute of Visual Sciences – San Francisco, U.S.A. (1974-1975 and 1993-1994). His main teachers in Ophthalmology were Almiro Pinto de Azeredo (Ribeirão Preto), Geoffrey B. Arden (London) and Arthur Jampolsky (San Francisco). He is the author of the book “*Oftalmologia – Fundamentos*”, Ed. Contexto, São Paulo, 1991 and co-author of the “*Parálisis Oculomotoras. Diagnóstico y Tratamiento*”, Tecnimedia Ed., Madrid, 1999. In 1967 and 1970 Bicas received the Adaga Award of the Brazilian Society of Ophthalmology for the best published Brazilian Ophthalmological paper of the year, and in 1977 and 1981 he received awards for the best Brazilian papers in Strabismus. In 1993, he was granted the William Kettlewell Endowed Chair in Visual Sciences (annual award of the S-K Eye Research Institute of San Francisco). In 1997, he received the Oftam/Brazilian Center of Strabismus Award for the best scientific paper in ocular motility. Bicas is a Member of the International Strabismological Association, American Association of Pediatric Ophthalmology and Strabismus, Latin-American Council of Strabismus (president 1974-1976, and General Secretary 1990-1996), Brazilian Center of Strabismus (president 1983-1985), Pan American Society for Research in Ophthalmology (president 1979-1981), Brazilian Academy of Ophthalmology (Vice-President), and the Academy of Sciences of Ribeirão Preto (President). He became the Associate Scientific Editor of the Arquivos Brasileiros de Oftalmologia, the official publication of the Brazilian Council of Ophthalmology (1990-1999) and the Editor-in-Chief since 1999. Since the beginning of his academic life, he has published more than 140 papers about strabismus, amblyopia and ocular motility, as well as more than 30 chapters in books. Address: Harley E. A. Bicas, Department de Ophthalmology, Faculty of Medicine, 14049-900 – Ribeirão Preto, Brazil. Phone: 55-16-6022523; Fax: 55-16-6022860; e-mail: heabicas@fmrp.usp.br (Antonio Jordao Jr)

Bickerton, John Myles (1894-1977) British ophthalmologist. John Myles Bickerton was born at Hoylake, Cheshire, the youngest son of Thomas Herbert Bickerton, and Mary Jessie, née Burton. He was educated at the Leas School, Hoylake, Leighton Park School, Reading, Pembroke College, Cambridge, and King's College Hospital Medical School where he was Burney Yeo Scholar. He held a number of appointments including senior ophthalmic surgeon, King's College Hospital; Dean of the Royal Eye Hospital and ophthalmic consultant to the London County Council. During the first world war he served in the RNVR as a surgeon probationer in HM Ships Lawford and Sybille, and in HMS Royal Oak 1918-1919 as Surgeon Lieutenant. He returned to King's College Hospital and in 1921 he joined Sir Robert Houston's yacht as surgical specialist for some months, again returning to his hospitals and private practice. Between the wars he became interested in flying, learned to fly and joined the RAFVR in 1937, becoming the first doctor to do so. He was made a Wing Commander. Flying became his chief recreation, with the result he had an aerodrome built at Denham. It was used a great deal during the second world war and is now very useful to the community at large. He came from a famous Liverpool medical family who all became ophthalmic surgeons. His grandfather Thomas was an FRCS Ed. His father Thomas Herbert was elected FRCS in 1926 and was the first person to draw attention to the problem of colour blindness in marine personnel. His uncle Col. R.E. Bickerton DSO was an eye specialist in London, Vienna and Zurich working for the Army in the first world war and afterwards for St Dunstan's. Bickerton's many publications included *The inheritance of blindness*, *Eye diseases in general practice* and *The bespectacled pilot*. He always maintained that the surgeons who gave him the most help and encouragement were L.V. Cargill, Sir Robert Jones, W. Lyle, Sir Cecil Wakeley and Sir St Clair Thomson. Bickerton received following titles and degrees: MRCS 1919; FRCS 1923; BA Cambridge 1919; MA 1924; BCh 1919; LRCP 1919. JPW

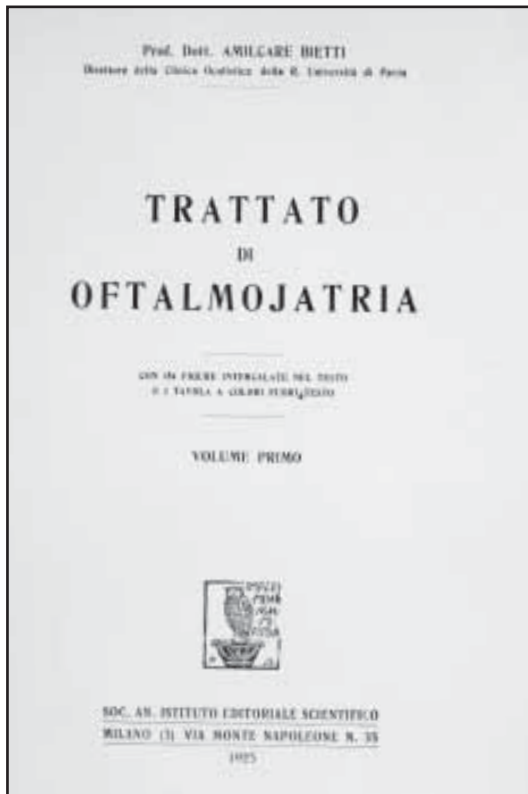
Bidloo, Govard (1649-1713) Famous Dutch anatomist at the University of Leiden. He was the *first* to find that animals cannot send light from their eyes, and, in 1690, he was the first to replace a wounded eye with a glass one. Amongst many other writings, he authored: "*De oculis et visu variorum animalium observationes physico-anatomicae.*" Lugduni Batavorum: Apud Samuelem Luchtmans, 1715 Albert

Bidwell, Shelford (1848-1909) British pioneer of telephotography who was born in Norfolk and educated at Cambridge. Bidwell devoted his life to scientific experimentation, making important discoveries in the fields of electricity, magnetism, and physiological optics. He invented an instrument for electrically transmitting photographic images. He wrote, based on a series of lectures: "*Curiosities of light and sight.*" London 1899. Albert

Bielschowski, Alfred (1871-1940) German ophthalmologist. Training 1894 under →H.Sattler in Leipzig. University lecturer 1900 in Leipzig. Professor 1912 in Marburg, from 1923 in Breslau. Discriminated as a Jew, he left Germany 1934 and became director of the Dartmouth Eye Institute, Hanover, New Hampshire, USA. Bielschowski paid special attention to paralytic strabismus. As from 1910 he was considered as the expert for problems of motor anomalies of the eye. Main work: "*Die Mobilitätsstörungen des Auges.*" Hirschberg: *History of Ophthalmology*, Bonn 1994, XI/3d, pp.68-69; BJO 24,420,1940.

Biervliet, Auguste-Louis van (1830-1869) *see Van Biervliet*

Bietti, G. B. (1907-1977) Italian ophthalmologist, professor of ophthalmology at the University of Rome since 1955. Throughout his life Professor Bietti displayed remarkable scientific activity. He participated in some 50 symposia and was an official reporter at many national and international congresses. More than 150 universities and ophthalmological societies in Italy and abroad invited him to give lectures on a wide variety of subjects. He was a member of numerous medical and ophthalmological societies and the editor-in-chief of the Bolletino d'Oculistica. Bietti published more than 1,200 papers in Italian and other journals, all of them highly praised. Among other books, he wrote *Trattato di Oftalmojatria* (3 volumes) Milano 1925. He gave his name to no fewer than 25 ophthalmic operations and eye diseases, among them the crystalline fundus dystrophy and certain particular forms of corneal degeneration. He was interested in all aspects of ophthalmology, experimental pathology and physiopathology, histology, microbiology, clinical pathology, and medical or surgical therapeutics. Precursor and pio-



G.B. Bietti

neer of cryotherapy, he wrote monographs and textbooks on vitamins, viruses, trachoma, corneal degenerations, and treatment of congenital glaucoma by goniotomy. Bietti was awarded the Gold Medal of Social Ophthalmology in 1964, that of the International Organization Against Trachoma in 1965, the Axenfeld Prize in 1969, and the Golden Ophthalmoscope of the Meridional Society of ophthalmology in 1972. Bietti was an Honorary member of some 15 ophthalmological and medical societies, including the American College of Surgeons. He was a member of six academies of medicine, and Doctor *honoris causa* of the universities of Thessaloniki, Münster, and Ghent. He was president of the International Organization Against Trachoma from 1954 and ex-officio member of the International Council of Ophthalmology, of which he became vice-president in 1974. AJO 1977,84:128-129

Biggam, James (1891-1960) Scottish ophthalmologist. Biggam was born in Wigtownshire and was one of four brothers who made the R.A.M.C. their careers. Graduating in Edinburgh in 1914, he went straight into the R.A.M.C. and served until the end of the Second World War. After the Great War in which he was awarded the Military Cross and Bar for conspicuous gallantry and devotion to duty and was twice mentioned in dispatches, he was seconded to the Egyptian Army. On his return to England he became lecturer in ophthalmology at the R.A.M.C. College at Millbank and won the Alexander Memorial Prize in 1930 and the Parkes Memorial Prize in 1937 for his investigation into the lighting of barracks and the designing of a spectacle frame for use with the service respirator. When the War Office decided to bring the Army medical equipment up to date, he advised on the equipment of an eye department. Thus he was

responsible for the very fine set of surgical instruments which delighted the hearts of army ophthalmic surgeons during the Second World War. During the latter war he served in India, Persia, and Iraq (where he served as Ophthalmic Consultant to Pai Force). He then took command of the 23rd Scottish General Hospital in Palestine, brought the latter home, and then went with it to North-West Europe. In the course of his journeying round the world he was reputed to be accompanied by some seventy trunks, boxes, and suit cases, each numbered and each bearing on its lid a list of contents. As one would gather, he was a most methodical man, but he was not in the least picky. When his soldiering days were over, he settled in an hotel in Glasgow and decided, having slept in many an uncomfortable billet to have the most comfortable bed that money could buy. This was supplied by a Glasgow firm complete with a red, amber, and green light to indicate the temperature of his electric blanket. When he came to work at the Glasgow Eye Infirmary he was nearing the end of his professional life. He chose to work in the Out-Patient Department, but this was no hum-drum duty to be performed as quickly as possible; each patient to him was a human being with a problem and he made it his task to solve that problem to the best of his ability. His reports on patients were a joy to read and one could be certain that every aspect of the case had been carefully investigated and weighed up. He brought all his great store of experience and philosophy to bear on his judgment, for he was a great philosopher and a man with a well-balanced mind. He became a kind of -BigBrother- in the out-patient department and young ophthalmologists brought their problems to him, so that he gradually became recognized as the trainer of the young refractionist. He was also a great authority on ophthalmic instruments, and his examination cubicle was stocked with all manner of appliances for the better investigation of his patients. BJO 1960,44:448

Bill, Anders (1931-) Swedish physiologist, born in Uppsala, Sweden. Bill started his career as part-time lecturer in Anatomy (1951 to 1955) and Physiology (1955-62), and became Senior Research Associate at the Institute of pharmacology from 1962 to 1964. Later, from 1964 to 1973, he was named Investigator of the Swedish Medical Research Council. In 1973 Anders Bill became Professor and Head of the Department of Physiology and Medical Biophysics. He received his medical education in Uppsala and earned his MD in 1958. He studied ophthalmology under Gunnar→von Bahr. Bill published countless papers in national and international journals. This is a selection: Bill, A.: *The aqueous*

humour drainage mechanism in the cynomolgus monkey (Macaca irus) with evidence for unconventional routes. Invest. Ophthalmol., 4:911-919, 1965; Bill, A.: *Scanning electron microscopic studies of the canal of Schlemm.* Exp. Eye Res., 10:214-218, 1970; Bill, A.: *Blood circulation and fluid dynamics in the eye.* Physiol. Rev., 55:411, 1975; Bill, A.: *Some aspects of the ocular circulation. Friedenwald lecture,* Invest. Ophthalmol. and Vis. Sci., 26:410-424, 1985; Bill, A.: *Effects of some neuropeptides on the uvea. The 1990 Andre Balazs Lecture.* Exp. Eye Res., 53:3-11, 1991. Anders Bill is a member of the ARVO, of the ISER, and the Nordic Society for Physiology. He is since 1995 Professor Emeritus from the Uppsala University. Phone: ++46 18 309880 Fax: 46 18 4714938, Email: anders.bill@fysiologi.uu.se (JPW)

Billard, Charles Michel (1800-1832) French physician, born at Pelouaille, near Angers, France. He received his medical training in Paris and practiced for a few years in Angers before succumbing to tuberculosis. Ophthalmologically he is noteworthy for his translation of the treatise by William Lawrence "*Traité Pratique sur les Maladies des Yeux*" Paris 1830. Albert

Billi, Domenico (18th century) Italian ophthalmologist. Almost nothing is known about his life. Only a book written by him and published in Ancona 1749 is known: "*Breve Trattato delle Malattie degli Occhi*" Ancona 1749, which was merely a compilation from French, German and English ophthalmologists. American Encyclopedia of Ophthalmology, vol.2, p.954, Albert



Binkhorst, Cornelius D. (1912-1996) Dutch ophthalmologist. Binkhorst was born in Rotterdam, the Netherlands. He received his medical training at the University of Leiden, the Netherlands, finishing in 1939. He continued at the Leiden University Eye Hospital for training in ophthalmology. In 1955 he went to London, England, and studied with Harold Ridley, returning to Terneuzen where he began implantation of intraocular lenses in the Netherlands. His first contributions for the improvement of lens implantation were cleaning and sterilizing techniques so that the lenses would be less toxic. The difficulties in successfully inserting Ridley lenses encouraged Binkhorst to try the new rigid and Dannheim anterior chamber lenses. The problems that these caused made him rethink the whole matter of lens implant support in the eye. In 1957 he developed the four-loop (pupilsupported) iris clip lens and implanted the first one on August 11, 1958. It became obvious to him that these lenses were much more stable after extracapsular surgery, with the posterior capsule supporting the posterior loops of the lens implant. Binkhorst coined the terms *pseudophakodonesis* and *endophthalmodonesis* and advocated extracapsular surgery for lens implantation, with marked reduction of the incidence of corneal decompensation and retinal detachment. Fixating the posterior loops in the capsular bag, he then removed the anterior loops of the lens implant and began the modern era of capsular bag fixated lenses in 1965. Binkhorst published almost 70 articles. He wrote: *Toxoplasmosis* Leiden 1948. He was a founder of the International Intraocular Implant Club and one of its distinguished presidents. He was also a president of the Netherlands and the European implant societies. He received five medals, including the prestigious Snellen Medal of the Dutch

Ophthalmological Society, and was an honorary member of five national implant societies. He was honored as a Freeman of the city of Terneuzen. Arch Ophthalmol 1995, 113:980

Birch-Hirschfeld, Felix Victor (1842-1899) German pathologist who studied medicine in Leipzig and graduated there 1867. Among his teachers were C. Wunderlich (1815-1877) and R. Wagner (1805-1864) from whom he benefited most. In 1870 he became Prosector at the City Hospital in Dresden and the following year teacher in pathologic anatomy at the Military Medical School for Graduates. In 1874 Birch-Hirschfeld became medical adviser to the Saxon Medicinal Collegium and 1879 physician to the Dresdner City Hospital. He wrote several contributions and articles but his main work was his "*Handbuch der pathologischen Anatomie*", Leipzig 1876 (several editions subsequently). Many of Birch-Hirschfeld's works contain passages on the pathology of the eye. The Graefe-Prize

(founded by Professor von →Welz) was awarded to him for his work on the "action of ultra-violet and X-rays upon the eye". American Encyclopedia of Ophthalmology, vol.2, p. 978-979.

Bird, Friedrich Ludwig Heinrich (1793-1851) German psychiatrist, served as an army surgeon for several years before receiving his medical degree at Halle in 1817. From this experience he wrote: "*Beobachtungen über die epidemische Augenentzündung im Kriegsjahre*" Halle 1824. His later years were spent in Bonn. Bird's extensive writings deal chiefly with psychiatric subjects. Albert

Bird, Urbar S. (1867-1919) American ophthalmologist and oto-laryngologist of Tampa, Florida, well known in the South. He received his medical degree at Tulane University, New Orleans, in 1895, and at once settled in Tampa. Ten years later he went again to New Orleans, where he studied ophthalmology and oto-laryngology for two years. Returning to Tampa he practised there as ophthalmologist and oto-laryngologist for the remainder of his life. He was a member of the American Laryngological, Rhinological and Otological Society and a surgeon of U. S. volunteers during the war with Spain. He also held a lieutenant's commission in the American Army during the Great War, and was honorably discharged Dec. 5, 1918. AJO 1919,2:458

Bischoff, Frederick (18th century). Nothing is known about this author who wrote: "*A treatise on the extraction of the cataract*" London 1793.

Biswas, Samir Kumar (1929-1974) Indian ophthalmologist. Samir Kumar Biswas was born in Khatura, a village in the Nadir district of West Bengal and was educated at the St Xavier's College and the Medical College, Calcutta. He was always a meritorious student and graduated in 1954 and passed DOMS of Calcutta University in 1956. He then went to the United Kingdom where he obtained the FRCS and FRCS Ed in 1962, having obtained the DO London in 1961. He then returned to India where he was attached to the Eye Infirmary, Medical College, Calcutta for several years until he became Associate Professor and head of the department of ophthalmology of the Nilratan Sircar Medical College, Calcutta. Biswas was a brilliant ophthalmologist, a very skilful surgeon, a keen academician and held in high esteem by his patients, students and friends. His complete dedication to the profession, genuine warmth and unassuming character made him loved by all who knew him. He was recognised internationally as an authority on corneal grafting and an operation performed by him was televised by the BBC, showing the high esteem in which he was held. He worked for a time at the Retina Foundation, Boston, and at the Ad de Rothschild, Paris. He was also a Fellow of the American College of Surgeons. Dohlman and he developed a new variety of keratoprosthesis. He was an enthusiastic member of the All India Ophthalmological Society. Biswas was a good organiser and established the Atul Ballav Eye Bank and Research Center in the NRS Medical College, Calcutta. Biswas earned following titles and qualifications: MRCS and FRCS 1962; DOMS Calcutta 1956; DO London 1961; FRCS Ed 1962; FACS. *Ind. J. Ophthalmol.* 1976, 23:46. JPW

Bjerrum, Jannik Peterson (1851-1920). Danish. The *reinvention of campimetry* by Bjerrum in 1889 was an important step in early diagnosis of glaucoma. Hirschberg, *History of ophthalmology*, Vol.XI/3d, Bonn 1994. *See also:* American Encyclopedia of Ophthalmology, vol.2 (1913): *Bjerrum's method of perimetry & Bjerrum's test types* (pp.1003-4).

Black, George William (1903-1987) British ophthalmologist. George William Black was born in Boston, Lincolnshire and was educated at Boston Grammar School and at the Middlesex Hospital, qualifying in 1926. During his early years in London he became very conscious of the divisions in English life, joining the Fabian Society and becoming a lifelong socialist. He was strongly influenced by George Bernard Shaw and moved in many literary and political circles, also frequenting theatres and art galleries. After qualifying he pursued a career in ophthalmology and initially built up a private practice in London before joining the consultant staff at Leeds in 1933. He was a pioneer in corneal grafting and also in the repair of retinal detachment. He was a founder member of the British Faculty of Ophthalmologists and served as its representative on the Council of the Royal College of Surgeons. Throughout his life in Leeds George built up a small

collection of works of art. Among his friends he counted Jacob Epstein whom he had met during the war. With his family in the United States and fearful that they might not see him again, he sat for the sculptor in his operating gown. Although he retired from his hospital appointment in Leeds at the age of 65 he continued as a locum consultant in Wakefield for a further five years as well as doing clinics in Wakefield prison and acting as a council member for the Royal National Institute for the Blind. Brit. med. J. 1988, 296:507.LFRCSE

Black, John Isaac Munro (1909-1989) British ophthalmologist. Munro Black was born on 23 January 1909 in Harton, County Durham, the son of Ernest Black, a clothier and amateur artist. He was educated at South Shields High School and Durham University Medical School, graduating with honours in 1931 and being awarded the Philipson Scholarship for the best marks in the final MB. His early appointments included that of house surgeon to Professor Grey Turner and after passing the FRCS in 1935 he became surgical registrar at the Royal Victoria Infirmary. Two years later he was appointed consultant in ear, nose and throat surgery to the hospital and in - 1938 was a ~unterian Professor at the Royal College of and later he also joined the staff of the Gordon Hospital. He was appointed President of the Proctological Section of the Royal Society of Medicine in 1945 and gave his presidential address on the topic of non-specific intestinal granuloma. During the second world war he served at Ashridge Hospital. He was a Freemason and was appointed to the staff at the Royal Masonic Hospital, a post which gave him great pleasure. He also worked at Putney Hospital and the Florence Nightingale Hospital. He became a Member of the Court of Examiners of the Royal College of Surgeons, and external examiner to Oxford and Cambridge Universities and Trinity College, Dublin. As an administrator, he laid many of the foundations for the expansion of Charing Cross Hospital Medical School. He earned following titles: MRCS and FRCS 1935; MS 1936; MD 1937. Charing Cross Hosp. Gazette, 1959, 57, no.3, 155 ; Ibid. 1984, 73, 33. LFRCSE

Black, Kenneth (1880-1959) British ophthalmologist. Black was formerly professor of surgery and lecturer in ophthalmology at King Edward VII Medical College, Singapore, and Surgeon to the General Hospital, Singapore.

Blair, Charles Samuel (1859-1939) British ophthalmologist. Blair was born at Forest Hall, Newcastle-upon-Tyne, son of the Rev. James Samuel Blair, vicar of Killingworth, Newcastle-upon-Tyne. He was educated at Durham School and having won a university scholarship in 1878 entered the University of Durham College of Medicine, Newcastle, before it moved to Orchard Street. He received his M.R.C.S. 24 October 1884; F.R.C.S. 9 December 1897; M.B. Durham 1882 and his M.D. in 1888. Coming to London he took postgraduate courses at the London and St Bartholomew's Hospitals. He then determined to devote himself to the practise of ophthalmic surgery, acted as chief clinical assistant at Moorfields, surgeon to the Western Ophthalmic Hospital and clinical assistant at the Royal Eye Hospital, Southwark. He then settled in Richmond, Surrey, where he was ophthalmic surgeon to the Royal Hospital. He was also ophthalmic surgeon to the National Association for promoting the welfare of the feeble-minded. Blair wrote: *Errors of refraction and their treatment*. Bristol, 1905; 2nd ed. 1910. An example of a published paper by Blair is: *Extensive non-pigmented choroidal changes*. Trans. ophthal. Soc. U.K. 1906, 26:99. Blair's son C.J. Longworth Blair also became an ophthalmic surgeon in Richmond, Surrey. LFRCSE 1930-1951:85

Blake, Eugene Maurice (1882-1969) American ophthalmologist. Blake entered medical school directly from the Bridgeport High School and received his medical degree from Yale in 1906, and then interned at the Hartford Hospital. After his internship, he became associated in practice of ophthalmology with A.N.Alling for five years. He joined the staff of the Yale Medical School in 1907, became clinical assistant in 1908, instructor in 1910, professor in 1926. Yale University awarded him a master of science degree in 1929, and was made head of the department from 1935 until 1951. From 1920 he was surgeon at the New Haven Hospital and served as a consultant at many other hospitals. He served as Captain in the Army Medical Corps during the first World War. During the second World War he was chief of the eye panel at the New Haven Induction center, a member of the committee for British relief, and in 1944 chairman of the greater New Haven area of

American Relief in Italy. He was instrumental in the formation of the Connecticut Society for the Prevention of Blindness, the first state chapter in the nation. In 1959 he received the first Helen Keller award made by the Connecticut Society. For many years he was a director of the National Society for the Prevention of Blindness, served on its executive board, and in 1947 was vice president. He served as secretary-treasurer of the American Ophthalmological Society from 1938 to 1942 and was elected its 50th President in 1946. He was a member of the board of governors of the American College of Surgeons from 1948 to 1953. He served as president of the New York Ophthalmological Society in 1950, Yalermen in Medicine in 1940, and New Haven Medical Association in 1942. He was a member of the American Medical Association, Association of Research in Ophthalmology, Sigma Xi, New York Academy of Medicine, the Connecticut Medical Society, and Societe-Francaise d' Ophtalmologie. In later years Dr. Blake restricted his practice to glaucoma and served as a member of the Advisory Council for Research in Glaucoma and Allied Diseases of the Alfred P. Sloan Foundation. In 1950 he suggested a possible relationship between corticosteroids and glaucoma (*Am.J.Ophth* 33:1231, 1950). *AJO* 1970,69:693-694

Blanchard, Donald (1947) American ophthalmologist and translator. He graduated from Oregon Health Sciences University in 1973. He completed his residency in ophthalmology there in 1978 training under Dr. Kenneth Swan and Dr. Robert Burns. He had a private practice in La Grande, Oregon for 13 years and then moved to Portland, Oregon where he worked at Kaiser Hospital. He is currently retired, but works part time as a volunteer clinical instructor at Casey Eye Institute. Hobbies include collecting color atlases of the ocular fundus and translation of early new high German ophthalmic texts. Bibliography: 1) "Vogtherr's Büchlin" Proceedings of the Cogan History of Ophthal. Society, 1996; 2) "Vogtherr's Büchlin", reprinted Documenta Ophthalmologica, 1997, vol. 93, No.1-2.pp 73-79; 3) *Ophthalmodouleia* Bartisch, G. trans. Wayenborgh, 1996; 4) *The Ophthalmoscope* Schett, A. trans. Wayenborgh 1996; 5) *The History of Spectacles* Vol 1 Schmitz, E in press Wayenborgh; 6) "Handel and His Blindness", Proceedings of the Cogan Ophthal. Society, 1999; 7) "Handel and His Blindness" Documenta Ophthalmologica in press; 8) "Bartisch on Theriac" Archives of Ophthalmology" in press; 9) "One Hundred of the Most Important Ophthalmology Books of the 20th Century" (Thompson, H. Stanley and Blanchard, D. Archives of Ophthalmology" in press; 10) *Theriac Bartisch*, G. trans., Blanchard's Books, 2000; 11) *Kunstbuch* Bartisch, G. trans in preparation Wayenborgh.; 12) *Leonart Fuchs* (Albert, M. Daniel and Blanchard, D. in preparation. (AB)



Laszlo Blaskovics

Blaskovics, Laszlo von (1869-1938) Hungarian Ophthalmologist. Laszlo Blaskovics, the son of a manager of the Hungarian State Railways, was born at Rézsahegy. He studied in Budapest and began his ophthalmologic career in the university clinic of Professor →Schulek in 1893. After having spent 10 years at the university, in 1905 he was appointed head of the Trachoma ward of St. Stephen's Hospital. In the same year he was awarded Privatdocent in ocular surgery. In 1907 he became the Director of the newly established Hungarian State Eye Hospital, where he worked for 20 years. In 1927 he succeeded Professor →Hoor in the Second Chair of Ophthalmology in Budapest, where he remained until his death in 1938. The scientific activities of Professor Blaskovics were extremely rich in comprehension. Although his publications were fewer than those of his contemporaries, they were of high standard. His chief interest and main field of surgery were the plastic operations of the eyelids. His ptosis operation is of standing value which intervention is performed to the present day (1970) with his original technique or with hardly any modifications throughout the world. He was a prominent surgeon, however, perhaps he was more illustrious in elaborating new surgical techniques. During his life the description of 27 of his original operations and 9 of his newly constructed instruments were published. Surgeons from all parts of the world visited him to learn the technique of his lid operations. He was also greatly interested in the problems of the tests for the determination of visual acuity. His newly perfected reading charts are even used today. He worked out a new unit for visual acuity, the 'Oxyoptria. At the age of 29 he had written his excellent '*Ophthalmological Surgery*' ('*Szemeszeti mutettan*') which ran several editions. An enlarged edition of the same work in collaboration with Kreiker, entitled '*Eingriffe am Auge*', appeared in German in Stuttgart 1938. He contributed the chapter on eye-



operations to the '*Handbook of Ophthalmology*', edited by Hoor-Grosz (1909). For 40 years he remained quiet, modest but active member of the Hungarian Ophthalmological Society and was its Chairman from 1920 to 1925 and from 1934 to 1936. He was also member of the Forensic Medical Council and of several foreign Ophthalmological Societies. His publications were written mainly in Hungarian and German. Although he did not participate in the international ophthalmological scientific activities personally, and rarely attended international conferences, his achievements admit him into the first rank of the highstanding ophthalmologists of the world. Magda Radnot: *Famous Hungarian Ophthalmologists* (Budapest, 1970); BJO 1938,22:700-701

Blaxter, Peter Llewellyn (1918-1997) British ophthalmologist born in Tonbridge. Blaxter received his medical training at St.John's College and Guy's Hospital. Following qualification in 1942, he held house appointments at Guy's and after a three year period of National Service began his ophthalmic career at Guy's and Moorfields. In 1950 he was appointed consultant ophthalmologist at Fulham Hospital. During the period 1948-54 he was Research Assistant at the Institute of Ophthalmology. In 1954 he left London and moved to Manchester where until 1982 he was consultant ophthalmic surgeon at the Manchester Royal Eye Hospital. From 1956 until 1982 he also was ophthalmic surgeon to the Manchester Jewish Hospital. During his career he was Vice President of the ophthalmic section of the Royal Society of Medicine, President of the North of England Ophthalmological Society in 1971, council member of the OSUK. From 1967-1982 he was on the council of the Faculty of

Ophthalmologists and was Master of the Oxford Ophthalmological Congress in 1975 and 1976. Blaxter was examiner for the ophthalmic nursing board, the British Orthoptic Board, and on the Court of Examiners of the Royal College of Surgeons. Influenced by his contemporaries, like T. Keith →Lyle, his main interest was ocular motility. BJO 1997;81:806.

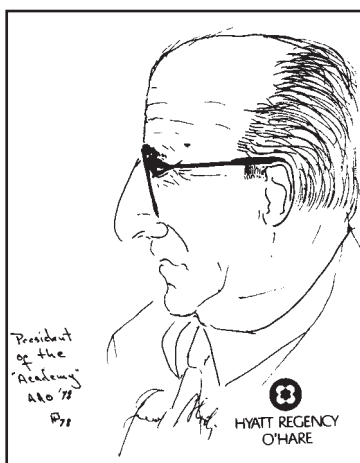
Blessig, Robert (1830-1878) Russian ophthalmologist. Born St.Petersburg, received in Dorpat his M.D. Became physician in chief to the *Ophthalmic Hospital* in 1863. Papers in Graefe Archiv between 1861-1868. American Encyclopedia of Ophthalmology, Vol.2 (1913) pp.1115.

Blézin, Jean (? - 1609) French. Oculist & general practitioner. Became 1584 Dean of the faculty in Montpellier (France). He published the works of his uncle Jean Blézin Schyron who taught at the same faculty from 1520-66. He wrote an unsuccessful book titled "*L'usage du vin guérit-il la Faim et l'Ophthalmie?*" (Does Wine heal Hunger and Blindness?) American Encyclopedia of Ophthalmology, Vol.2, p.1116.

Blizard, William (Sir William) (1743-1835) Famous British surgeon. Studied surgery under Pott and Hunter. Was appointed surgeon at Magdalen Hospital, later at the London Hospital where he founded, with MacLaurin, a medical school. He became a F.R.S. in 1785. He wrote several books and articles, but only one in ophthalmology: "*A New Method of Treating the Fistula Lachrymalis*" in *Philosophical Transactions*, vol.70, 1780. American Encyclopedia of Ophthalmology, vol.2, p. 1220; Concise Dictionary of National Biography, Oxford 1925.

Bloch, Marcus Eliezer (1723-1799) German physician. Studied first medicine with a Jewish physician in Hamburg, then at the University of Berlin, later in Frankfurt/on-the-Oder where he received his degree. He settled in Berlin where he became a well known physician and naturalist. He only important writing in ophthalmology was: *Abhandlung von Pyrmonter Augenbrunnen*. Berlin 1774. American Encyclopedia of Ophthalmology, vol.2, p.1221-1223.

Blodi, Frederick C. (1917-1996) Austrian, later American ophthalmologist. Grown up in Mödling, medical education and M.D. 1940 at Vienna, 1st. University Eye Clinic under →Joseph Meller (1874-1968), Joseph →Böck and →A. Pillat (1891-1975). Blodi moved to America in 1947 and supported by a stipend from the World Health Organization became



Frederick C. Blodi by Paul Henkind

a fellow with Algernon →Reese at Columbia in New York City, New York Eye Institute (Columbia University), invited by Alson E. →Braley he accepted a post as an ophthalmic pathologist in Iowa and became the Chair of ophthalmology at Iowa University Hospitals (Iowa City) from 1967 to 1984, and Director at King Fayed Eye Clinic, Riyadh, Saudi-Arabia. He wrote in 1964, with Lee Allen and Alson Braley *Stereoscopic Manual of the Ocular Fundus in Local and Systemic Disease*, in 1985: *"The Eye, Vision and Ophthalmology on Postage Stamps"*, in 1988 *Differential Diagnosis of Eye Disease* and translated 1977→A.Vogt: *"Textbook & Atlas of Slit Lamp Microscopy of the Living Eye"* (3 vols.) Bonn:Wayenborgh Publ. 1978-81[GM 1527] →Hirschberg's *"History of Ophthalmology"* (11 volumes in 21 parts) [GM 5996]; 1978: Poulet: *"Atlas on the History of Spectacles"*(2 vols.). He also was for a decade editor of *Archives of Ophthalmology*. Blodi edited 1972 and 1974, volumes 3-4 of *Current concepts in Ophthalmology* (Mosby). He published countless papers in various journals and was Chairman of the *American Board of Ophthalmology* in 1975, President of the *American Academy of Ophthalmology* in 1979, President of the *Association of University Professors in Ophthalmology* in 1982, Blodi was awarded the *Lucien Howe Medal* from the *American Ophthalmological Society* in 1980 and became their President in 1991 and in 1995 was named *Honorary Member* of the same Society. In the last 130 years only two members of this Society before him received these three honours: Arnold→ Knapp and Frederick →Verhoeff. JPW; H.Stanley →Thompson(Internet UI Ophthalmology, Home Page Dec 96-Jan 1998); Argus 1996, Nov/Dec. p.33; Arch Ophthalmol 1997,115:436-437; AJO 1997,123:438-440.

Boase, Arthur Joseph (1901-1986) British ophthalmologist born in British Guiana. Educated at Mount St.Mary's, the Jesuit College in Derbyshire, and at St.Thomas' Hospital Medical School, where he graduated in Medicine, aged 22 years. In 1924 he joined the Colonial Medical Service and was appointed to Uganda. Early in his career he specialised in ophthalmology, though this had to be combined with the duties of a general medical officer until 1945, when he was finally gazetted as Senior specialist ophthalmologist. In addition to his clinical duties, Arthur Boas was at various times President of the East African Association of Surgeons and the Uganda branch of the BMA. Together with colleagues he was instrumental in founding the medical school at Makerere. Boase retired from Uganda in 1956 to take up the post of warden of the Ophthalmic Hospital of the Order of St.John in Jerusalem. On retirement from Jerusalem in 1969 he went to live in Uckfield, Sussex and continued there to work part-time until he was 76 years old. Among other honours he was awarded the KStG and the KStJ. BJO 1986; 70:478-479. Brit med J.1986,292:705.JPW

Bock, Emil (1857-1916) Slovenian ophthalmologist born in Galicia, who received his medical degree in Vienna 1881. He worked several years under →Stellwag von Carion before settling 1889 as an ophthalmic surgeon in Laibach (Ljubljana). Bock's underspeciality in ophthalmology was the pathology of the eye. Among others he wrote: *"Die Angeborenen Kolobome des Augapfels"* Wien 1893; *"Zur Kenntnis der gesunden und kranken Thränenendrüse"* Wien 1896. Bock's complete library was bought by JP Wayenborgh 1972 and used to complete →Dor's library, now Mary and Edward →Norton Library at Bascom Palmer Institute in Miami. JPW; Albert.

Böck, Joseph (1901-?) Austrian. Medical degree 1939 at the University of Vienna, Professor and director of the eye clinic at the University of Graz 1947. Professor and Chair in Vienna 1955. Co-author with J. → Meller: *"Augenärztliche Eingriffe"*, 5th edition 1946, 6th edition 1950 and the English translation of the same title. Countless articles since 1953 in different German journals. Kürschners Gelehrten- Kalender 1966, p.203.

Boeder, Paul (1902-1995) American scientist, optician and teacher in physiological optics. Boeder will be remembered by the many ophthalmologists he has reached during his long career while teaching physiological optics. Boeder came to America from Hamburg, Germany, during the height of inflation following World War I. He worked on an assembly line for the Ford Motor Company and as a telephone operator for Bell Telephone. But his disciplined mind and rigorous thinking made him reconsider his goals. He entered graduate school to study mathematics and completed his education at the University of Göttingen in Germany. During the early 1930s he returned to the United States and taught mathematics



Joseph Böck

at Susquehanna University in Selinsgrove, Pa. Adelbert Ames, a seminal leader at the Dartmouth Eye Institute became acquainted with Dr Boeder and invited him to join the faculty at Dartmouth Eye Institute, while American Optical appointed Dr Boeder to direct its Bureau of Visual Sciences with the purpose of developing optical devices, such as a lens, to correct aniseikonia. A career-determining influence arose out of Dr Boeder's association with W. R. Lancaster, MD. Dr Lancaster had organized an instruction course in ophthalmology for physicians returning from World War II. The elderly statesman of ophthalmology asked Dr Boeder to teach optics in that course. Paul took over on very short notice and he continued to teach in most basic science courses in ophthalmology in this country until he was 79 years old. Alson E. → Bradley, MD, Head of the Department of Ophthalmology at the University of Iowa invited Boeder to join the department in Iowa City, thus providing a home base for Paul Boeder, who was independently supported by American Optical with a lifetime annuity. Paul presented optics in a consistent, logical manner; he confined his presentations to those optical problems that had unique solutions. Paul never practiced refraction, partly because he did not have the training and partly because it would not permit him to remain "exact." Paul also contributed significantly to the theory of extraocular muscle function. He finished his last scientific manuscript at the age of 84 years. Among the many honors that Dr Boeder received, one was an international symposium organized in his honor in 1975 and another was an oral history by the American Academy of Ophthalmology published in 1992. Arch Ophthalmol 1995,113:980



Hermann Boerhaave

Boerhaave, Hermann (1668-1738) Dutch physician, born in Voorhaut, Holland. He received his M.D. in 1693 at the University of Leiden, where he became a popular lecturer. Boerhaave is considered the father of the modern method of clinical instruction and is considered to be the founder of practical ophthalmology in the eighteenth century. In addition, he was the first to describe accurately the muscular fibers in the ciliary body, and he gave wide dissemination to Maitre-Jan's and Brisseau's revolutionary theory as to the true nature of cataract. Boerhaave's chief works are: "*Institutiones Medicae*" 1708 and "*Aphorismi de Cognoscendis et Curandis Morbis*" 1709. Ophthalmologically, his main work was: "*Praelectiones publicae de morbis oculorum*" Göttingen 1746 which was translated into French "*Des maladies des yeux*" Paris 1749 and in German "*Kurtze doch gründliche Abhandlung von Augenkrankheiten Nürnberg*" 1751. American Encyclopedia of Ophthalmology, vol.2, p.1240-1241. Albert

Bogaert, Baron Ludo van see Van Bogaert

Böhm, Ludwig (1811-1869) German ophthalmologist. Böhm was a pupil of Dieffenbach, the inventor of the strabismus operation. He received his M.D. from the University of Berlin in 1841 and soon became a professor there. As a surgeon with an extensive practice, he devoted himself mainly to ophthalmic procedures. Böhm developed nonsurgical methods for the treatment of strabismus, poor vision, and nystagmus. He wrote *Nystagmus und seiner Heilung*, Berlin 1857 [the first book on this subject]; "*Das Schielen und der Sehnenschnitt in seinen Wirkungen auf Stellung und Sehkraft der Augen*" Berlin 1845 and *Die Therapie des Auges mittels des farbigen Lichtes* Berlin 1862. Albert, American Encyclopedia of Ophthalmology, vol.2, p.1241-1243.

Boissier de Lacroix de Sauvages, François (1706-1767) French botanist and physician born in Alais (Gard). He first studied in Montpellier, later, from 1830, for 15 months in Paris. He returned to Montpellier where he was named Professor at the medical faculty. He became famous for his book "*Nosologia methodica sistens morborum classes...etc*" Leiden 1760. He wrote many other books, of which in ophthalmology: "*Nosologia methodica oculorum : or a new treatise on the diseases of the eyes ... selected and translated from the Latin ... with medical annotations by George Wallis* London 1785.

Boissonneau, Auguste P., French maker of artificial eyes of the 19th century. He wrote: "*Mémoire sur la prosthèse oculaire et sur les améliorations apportées aux yeux artificiels*" Paris 1840. Albert

Böke, Wilhelm (1924-1993) German ophthalmologist. Lecturer at the University of Münster 1958, Professor 1964. From 1967 professor and chair University of Kiel. Immunology and allergy research. About 180 papers in various journals between 1952 to 1985. Böke was editor of Kortikosteroide in der Augenheilkunde 1972; Ocular Immune

Responses Strasbourg 1974. He contributed to: *Sammlung zwangloser Abh. aus d. Geb.d. Augenheilkunde* 22, 1960; Velhagen: *Der Augenarzt*, Vol.VI, 1964; *Lehrbuch und Atlas d. Augenheilkunde*. Kürschners Gelehrten- Kalender 1966, p.210 & 1987, I, 401.

Bolton, James (1812-1869) American ophthalmologist, born in Savannah, Georgia, where he received his M.D. at the College of Physicians and Surgeons in New York in 1836. Afterwards Bolton studied eye and ear diseases with John Kearny Rodgers and Valentine Mott. After serving in the Civil War, he settled and practiced in Richmond, Virginia. He was the author of: "*A treatise on strabismus, with a description of new instruments*" Richmond 1842. "*De l'oeil artificiel humain*" Saint-Cloud c.1855. "*Renseignements généraux sur les yeux artificiels*" ... Paris 1866. "*Quelques mots sur la cataracte*" Paris 1837. Albert

Bonnet, Amédée (1802-1858) Celebrated French surgeon and ophthalmologist. Born at Amberieu. He received his medical training and degree in Paris. Before his graduation he won a gold medal as "*interne*" for his work. The same year of his graduation (1832), he competed for the position of *surgeon major* at the Hôtel Dieu in Lyon, and easily that position won. He held this post for eleven years. Among his writings, the most important in ophthalmology was: "*Traité des Sections Tendineuses et Musculaires dans le Strabisme, la Myopie, la Disposition à la Fatigue des Yeux...*" Lyons 1841. American Encyclopedia of Ophthalmology, vol.2, p.1246-1248.

Borel, Pierre (1620-1689) French physician born in Chartres. He received his medical education in Montpellier, returned to Chartres to practise, moved 1653 to Paris to become later *Councillor* to the King and Fellow of the Academy. He wrote "*Bibliotheca Chemica*" Paris 1654 ; "*Historiarum, et Observationum Medico-physicaram Centuria*" 1653 [GM 260]; "*De Vero Telescopii Inventore*" 1655 [GM 261]. American Encyclopedia of Ophthalmology, vol.2, p.1250.



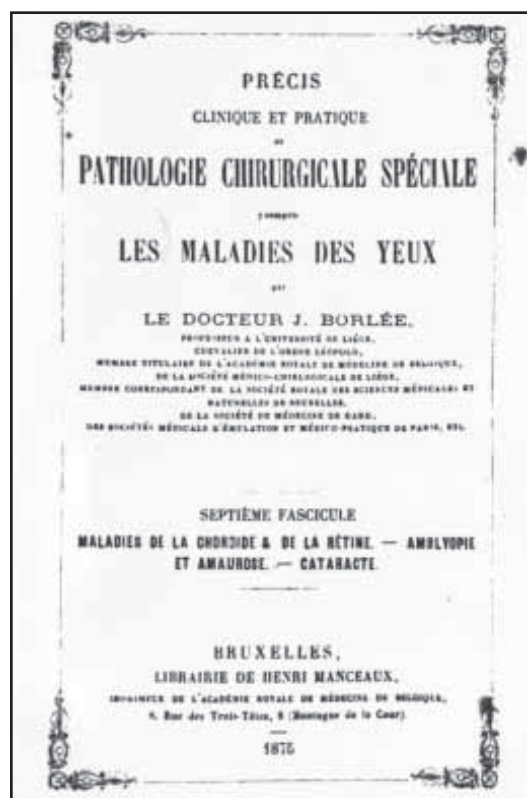
Pierre Borel

Borlee, Joseph-Augustin (1817-1907) Belgian ophthalmologist. Borlee was born in Huy (province of Liège). He obtained his M.D. degree in 1842 and the special doctorate in 1845, both at Liège University. He taught ophthalmology from 1848 to 1881 among many surgical matters and even osteology, myology and legal medicine. He wrote on scrophulous, rheumatismal and purulent ophthalmia, but his principal achievement has been a text-book of surgical pathology including the eye diseases (1872). He defended the diathetic theories and blood-letting. He did not believe in microorganisms and rejected Jäger's inoculation technique which was recommended by Van→Roosbroeck. His pupil

Lucien→Leplat said that he extracted cataract without anesthesia but with success. He much developed the department of ophthalmology. He was member of the (French) Belgian Academy of Medicine. (Verriest)

Borri, Giuseppe Francesco (1627-1695) Italian Jesuit priest and physician of Milan. He wrote: "*Epistolae duae. I. De cerebri ortu & usu medico. II. De artificio oculorum humores restituendi. Ad Th. Bartholinum.*" Copenhagen 1669. Albert

Borthwick, George (18th cent.,) Irish military surgeon and later a physician practicing in Elkenny, Ireland. He wrote: "*Treatise upon the extraction of the crystalline lens.*" Edinburgh 1775. Albert



Boruchoff, S. Arthur (1925) American ophthalmologist, born in Boston, MA, USA. He received the A.B. from Harvard College (1945), the M.D from Boston University (1951), and the M.S. (in ophthalmology) from New York University (1956). He served a resident under Dr. Conrad Berens at the New York Eye and Ear Infirmary (1951-1956), during which he spent a year studying the vitreous body supervised by Sir Stewart Duke-Elder and Professor Norman Ashton at the Institute of Ophthalmology, London (1954-1955). Returning to Boston, he began a clinical practice primarily concentrating in cornea and external diseases, and a 35 year long association with the Massachusetts Eye and Ear Infirmary and Professor Claes H.→Dohlman. He attained the rank of Associate Professor of Ophthalmology at Harvard Medical School and subsequently Professor of Ophthalmology at Boston University. His bibliography lists some 90 publications, primarily in the area of corneal diseases and surgery with special interest in the corneal dystrophies. The topic of his Castroviejo medal presentation before the American Academy of Ophthalmology (from which he received both Honor and Senior Honor Awards) was "*Unusual Aspects of the Corneal Dystrophies*" (1988). In addition, he has had the honor of having several named lectureships (the John McCullough lecture at the University of Texas, Galveston, 1979, and the Albert C Snell lectureship, Rochester, N.Y. 1994). Some examples of his publications are "Boruchoff, S A and Goldberg,B.: *Edrophonium (Tensilon) in the diagnosis of Ocular Myasthenia Gravis.* Arch. Ophthalmol. 53: 718,1955", "Boruchoff, S A and Kuwabara T.: *Electron Microscopy of Posterior Polymorphous Corneal Dystrophy.* Am. J. Ophthalmol. 72: 879,1971" and "Boruchoff, S A, Weiner MJ, and Albert, D.: *Recurrence of Posterior Polymorphous Corneal Dystrophy after Penetrating Keratoplasty.* Am. J. Ophthalmol. 109: 323, 1990". He is the recipient of the Paton award from the Eye Bank Association of America (1993) and the Silver Medal from the Association for the Prevention of Blindness in Mexico (1978). (S. Arthur Boruchoff, MD: Department of Ophthalmology, Boston University, Boston, MA., U.S.A., e-mail: boruchof@bu.edu)(JPW)

Borysiekiewicz, Michael (1848-1899) Born in Galicia, he studied in Vienna under→Arlt (1872-74), became assistant under Stellwag von Carion (1874-80), became professor in Innsbruck and later professor and chairman in Graz. He wrote "*Untersuchungen über den feineren Bau der Netzhaut*" Leipzig and Wien 1887 and "*Weitere Untersuchungen über den feineren Bau der Netzhaut*" Leipzig and Wien 1894 and "*Beiträge zum feineren Bau der Netzhaut von Chameleo vulgaris*" 1899

Bosch, Joseph J.J. (1794-1873). Dutch. Born in Maastricht (Netherlands), Bosch studied in Douai, Strasbourg & Paris. MD in Leyden (Netherlands) in 1815. He became for twenty years chief surgeon at the Hospital of Maastricht, professor for obstetrics and instructor of anatomy and surgery. He was nominated member of the Belgian Academy in 1843 and returned to Brussels 1845. Bosch became vice director of the Eye Institute of Brabant. In 1847 he was appointed physician for the indigent. Three relevant publications in *Annales d'Oculistique* 1850-53.

Bouchut, Eugène (1818-1891) French physician of Paris. He received his M.D. in 1842 and was for many years associated with the Hôpital des Enfants Malades. He wrote several works on the use of the ophthalmoscope in diagnosing neurological disorders : "*Du diagnostic des maladies du système nerveux par l'ophtalmoscopie.*"(text and atlas) Paris 1866; "*Atlas d'ophtalmoscopie médicale et de cérébroscopie montrant chez l'homme et chez les animaux les lésions du nerf optique*"Paris 1876.

Bouguer, Pierre (1698-1758) French hydrographer, was the founder of experimental photometry and of atmospheric optics. Bouguer invented the photometer to assist in his studies of the transmission and gradations of light. Both of the publications listed below were published and edited posthumously by Nicolas Louis de La Caille: "*Traité d'optique sur la gradation de la lumière*" ... Paris 1760. "*Optice de diversis luminis gradibus dimetiendis, opus posthumum*" Vienna 1762.

Bouisson, Etienne Frédérick (1813-1884) French physician. Studied medicine at Montpellier where he received his medical degree in 1835. He accepted a chair of physiology at Strassburg and moved 1840 to Montpellier to become *seriatim* , a professor teaching various branches of medicine. Bouisson was from 1867 until 1879 Dean of the Faculty. He was a prolific writer: his collected works consisted of 14 volumes. His

ophthalmic articles appeared in *Annales d'Oculistique*, 1847, pp.100-104; *Journal de la Médecine Pratique* (1847); *Montpellier Medical* (1860 & 1863); *Gazette Médicale de Paris* (1863). American Encyclopedia of Ophthalmology, vol.2, p.1254-1255

Bourgeois, Charles Guillaume Alexandre (1759-1832) of Amiens, France, was a painter and physician who became interested in the systematic study of colors and color perception. His experiments resulted in several publications of value to the field of physiological optics. He authored: "*Mémoire sur les couleurs de l'iris, produites par la réflexion de la lumière*" Paris 1813.

Bourne, William, M. (1943-) American Ophthalmologist, Professor of Ophthalmology at Mayo Clinic. He graduated from University of Iowa with MD degree in 1969, and studied Ophthalmology at the University under Prof. Frederic C. →Blodi. He joined the staff of the Mayo Clinic in 1975, was appointed Professor of Ophthalmology in 1985, and serves in this position since then. In professional societies, he serves as a Trustee of the Association for Research in Vision and Ophthalmology (ARVO, 1994-2001), was on the Executive Committee of the Castroviejo Society (1985-1989), and is a Member of the American Ophthalmological Society since 1983. His editorial assignments include *Invest. Ophthalmol. Vis. Sci.* (1992-1997), *Am. J. Ophthalmol.* (1984-present) and *Cornea* (1981-1996). His major research interest is physiology and pathology of the cornea, and he is one of the pioneers of corneal specular microscopy that allows study of the corneal endothelium in the living eye (*Specular microscopy of human corneal endothelium in vivo*. *Am. J. Ophthalmol.* 81:319, 1976, *Clinical specular microscopy*. *Trans. Am. Acad. Ophthalmol. Otolaryngol.* 81:743, 1976). The honor awards he received include R. Townley Paton Award and Lecture (Cryopreservation by vitrification: progress in permanent corneal storage, 1994) and Castroviejo Medal and Lecture (Cellular changes in transplanted human corneas, 2000). (Department of Ophthalmology, Mayo Clinic, 200 First St. SW Rochester MN 55905, U.S.A., phone: +1-507-284-4572; fax: +1-507-284-8566; e-mail: bourne.william@mayo.edu) (SM)

Bourquenod, Jean Pierre (?-?) French surgeon. Son of Pierre Bourquenod. Professor of Anatomy in Montpellier at the time of the dissolution of the institution in 1792, who seems to have practised ophthalmology to some extent. He wrote in the "*Journal Médical de Montpellier*" an article titled "*Rapport fait à la Société de Médecine Pratique de Montpellier sur une Tablette pour Faciliter l'Operation de la Cataracte*". American Encyclopedia of Ophthalmology, vol.2, p.1255; H.Truc & P.Pansier *Histoire de l'Ophthalmologie à l'Ecole de Montpellier*, Paris 1907, p.221.

Bourquenod, Pierre (?-?) 18th century French anatomist and surgeon, father of Jean Pierre B., who devoted some attention to ophthalmology. He became Master in Surgery in 1729 and was one of the four professors instituted by the king in 1742. He was the teacher of →Pellier de Quengsy and of Pierre François →Pamard (1729-1793) whom he often assisted in cataract operations. American Encyclopedia of Ophthalmology, vol.2, p.1256; H.Truc & P.Pansier *Histoire de l'Ophthalmologie à l'Ecole de Montpellier*, Paris 1907, p.221.

Bowden, Bernard James (1927-1980) New Zealand ophthalmologist. Bernard James Bowden was born at Mt Albert, Auckland, the only son of William and Catherine Bowden. He was educated at Takapuna Grammar School and entered Auckland University as a Sinclair Scholar, graduating BSc in 1948. He spent that year as a junior master at King's College, Auckland, but he then decided to study medicine and in 1949 he entered the Otago Medical School. He graduated MB, ChB with distinction in surgery in 1953. He held house surgeon posts at Auckland and Gisborne and then became ophthalmic registrar at Auckland Base Hospital. In 1954 he married Dr Katharine Thomson and in 1957 they came to the United Kingdom where he held the posts of outpatient officer at Moorfields Eye Hospital, senior registrar at the Bristol Eye Hospital and tutor in ophthalmology at the University of Bristol. During this time he obtained the FRCS England and Edinburgh in ophthalmology. He became FRACS in 1961. On returning to New Zealand Bernard Bowden became ophthalmic surgeon to the Northland Hospital Board and held this post for the rest of his life. He was a skilful surgeon with an exceptional academic background and an acknowledged leader in his speciality. In 1974-1975 he was President of the Ophthalmological Society of New Zealand and for a number of years Examiner in

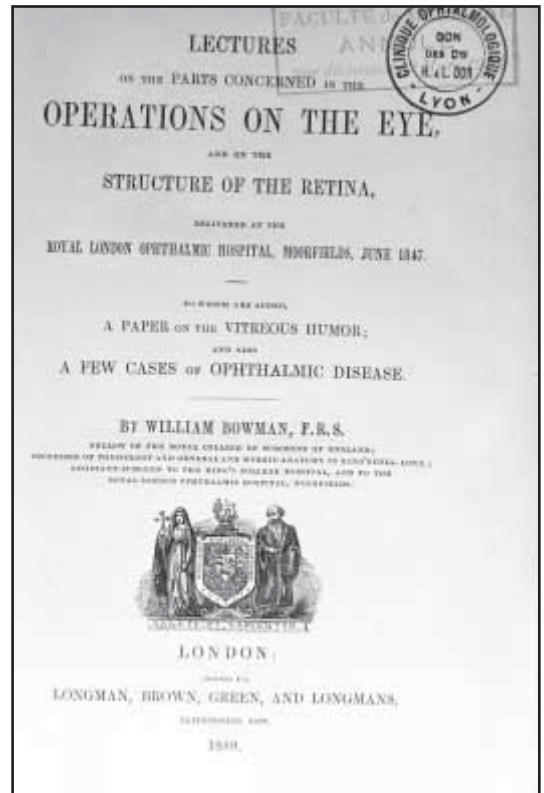
Ophthalmology in the final examination of the FRACS. He was President of the New Zealand Medical Association when he died. Bowden visited with his wife the Cook Islands annually and performed many operations, especially for cataracts in these remote islands where they made firm friendships with the doctors with whom they stayed. He saw the problems of the children and young people in these distant places and he organised the distribution of books and educational texts to various schools and villages in the Cook group. His titles were: MRCS and FRCS 1960; BSc Auckland 1948; MB, ChB Otago 1953; FRCS Ed 1959; FRACS 1961. N.Z. med. J. 1981, 93: 89-90. JPW



Sir William Bowman

Bowman, William (Sir William) Paget (1816-1892) Celebrated British ophthalmologist.

He began his medical studies at the Birmingham General Hospital and went 1833 to London where he entered King's College Hospital. He became 1835 demonstrator in Anatomy. Aged 22 he visited hospitals in Holland, Germany, Austria and France. On his return he was appointed to the chair of Physiology and General & Morbid Anatomy. In 1843 Bowman was made assistant surgeon at the Royal Ophthalmic Hospital and seven years later full surgeon at the same institution. He held this position for 25 years until he was required to retire, having reached the age of 60. Bowman discovered and was the first to describe: the *anterior elastic lamina* of the cornea and the *corneal interspaces*. (Bowman's membrane and Bowman's tube). The muscularity of the ciliary body, or in other words the ciliary muscle (almost together with Ernst → Brücke in Vienna. He invented useful lachrymal probes which bore his name. He was the first to indicate the true nature of zonular, or lamellar, cataract. Bowman invented and developed a large number of instruments and operation methods. When in 1851 (the year of Helmholtz's invention of the ophthalmoscope) Donders and Graefe visited London they made the acquaintance of Bowman. The trio became very close friends. A circle that did not break until Albrecht von Graefe's early death in 1870. These three genies were a constant source of encouragement and stimulus. Bowman received a knighthood, and the presidency of the International Medical Congress in London 1881. He co-founded in 1880 the Ophthalmological Society of Great Britain and for three consecutive years was made president of this new organization. He wrote: "*Lectures on the parts concerned in the operations on the globe, and on the structure of the retina*" London 1848; "*Lectures on the parts concerned in the operations on the eye, and on the structure of the retina*" London 1849 [GM 1505] and with Robert Bentley Todd and Lionel S. Beale: "*The physiological Anatomy and Physiology of Man*" London 1857. His *Collected Papers* were published in London 1892. He also wrote several papers of which five are annotated in Garrison and Morton's Medical Bibliography [GM 542, 1231, 1505, 5867 and 5879]. American Encyclopedia of Ophthalmology, vol. 2, p. 1257-1260. Albert, JPW.



Boyd, Benjamin F. (1926-) Panamanian Ophthalmologist, Emeritus Professor of Ophthalmology, University of Panama School of Medicine, and Chairman of the Board of HIGHLIGHTS OF OPHTHALMOLOGY INTERNATIONAL. He was born as the grandson of Federico Boyd, one of the fathers of Independence of the Republic of Panama. He graduated from Duke University, North Carolina, U.S.A. in 1945 with B.A. degree and then from North-Western University School of Medicine, Chicago, Illinois in 1949 with M.D. degree. He studied Ophthalmology at Gorgas Hospital in Panama, and completed

residency training in 1953. During the Korean War, Gorgas Hospital served as a Center for treatment of wounded people coming from the War. It had multiple high top specialists with which Dr. Boyd trained in different subspecialties. He then received Diplomate of American Board of Ophthalmology. He is the Founding Professor of Ophthalmology and Chairman of the Dept. of Ophthalmology, University of Panama, School of Medicine (1953-1974); Former Dean and Chief, Department of Surgery, University of Panama School of Medicine (1969-1970). He is now Emeritus Professor of Ophthalmology, University of Panama, School of Medicine; Founder and Chief Consultant, Ophthalmology Center of Clinica Boyd Panama, R.P. His professional activities are extensive and he has held the following positions: Immediate Past-President, Academia Ophthalmologica Internationalis (1994-1998); Past-President (1985-1987) and Executive Director (1960-1985) Pan-American Association of Ophthalmology; Honorary Life Member, International Council of Ophthalmology (Concilium); Chairman of the Board and Editor in Chief, *Highlights of Ophthalmology*; Fellow, American Academy of Ophthalmology; Fellow, American College of Surgeons; Guest of Honor, American Medical Association, 1965; Guest of Honor, American Academy of Ophthalmology, 1978 and Barraquer Institute in Barcelona, 1982 and 1988, Doctor Honoris Causa of Five Universities; Past-President, Academy of Medicine and Surgery of Panama, 1968-70; O'Brien Visiting Professor of Ophthalmology, Tulane University School of Medicine, New Orleans, 1983. His editorial assignments embrace Editor in Chief and Chairman of the Board, *Highlights of Ophthalmology's* bi-monthly eleven Editions (Brazilian, Chinese, English, German, Hebrew, Indian, Italian, Japanese, Middle East and Spanish) 25 annual Volumes. He is the author of *Highlights of Ophthalmology*, Atlas and Textbooks (23 Volumes) published in hard cover (English and Spanish) soft cover in Portuguese (Brazil), Italian and Chinese. For his outstanding contributions to the World Ophthalmology and humanity, he received 10 Honor Awards that include Doctor Honoris Causa; the Duke-Elder International Gold Medal Award (International Council of Ophthalmology), the Barraquer Gold Medal (Barcelona), the First Benjamin F. Boyd Humanitarian Award and Gold Medal for the Americas (Pan American), award presented every two years to the ophthalmologist who has most contributed to humanity in the Western Hemisphere, The Gradle Gold Medal for teaching (Pan-American); the Great Cross of Vasco Nunez de Balboa, Panama's highest award, and the Great Cross of Christopher Columbus, Dominican Republic's highest award, for "*Contributions to Humanity*"; the Leslie Dana Gold Medal for Prevention of Blindness and the U.S. National Society for Prevention of Blindness Gold Medal, Moacyr Alvaro Gold Medal (Brazil), the Jorge Malbran Gold Medal (Argentina), the Favaloro Gold Medal (Italy), the Ophthalmological Foundation of Colombia Medal; the Andres Bello Silver Medal from the University of Chile for "*Extraordinary Contributions to World Medical Literature.*" His Honorary Member of Ophthalmological Societies of Argentina, Bolivia, Brazil, Canada, Colombia, Costa Rica, Chile, Dominican Republic, Guatemala, Mexico, Paraguay, and Peru. (Benjamin F. Boyd, M.D., F.A.C.S. Chairman of the Board *Highlights of Ophthalmology* International P.O. Box 6-3299, Panama, Rep. of Panama : Phone No. (507) 236-2354 Office : Fax No. (507) 236-2437 Office : E-mail: benboyd@hophtal.com)(SM)

Boyd, Thomas Alexander Somerville (1918-1993) Scottish ophthalmologist. Thomas Boyd was born in Glasgow on 7 June 1918, the son of Harold Arthur Boyd and his wife Edith, nde Somerville. He was educated at Glasgow Academy. His father was chairman and director of the family engineering business, J & T Boyd Ltd., and Thomas went through an engineering apprenticeship from 1935 to 1937. He then took the decision to enter medicine and was accepted at Glasgow University Medical School, qualifying in 1942. After rotating intemships in Glasgow and Stirling he joined the RAMC in 1943 as a general duty medical officer. He soon took up a traineeship and subsequently qualified as graded ophthalmologist, serving in military hospitals in Belgium, Germany, Tripolitania, Palestine and Cyprus. He was appointed consultant ophthalmologist in Bangour, but after three years decided to move to Edmonton, Canada, taking his CRCS(C) in 1959, and FRCS(Canada) in 1973. Between 1962 and 1974 he gained over thirty research grants, and his energetic research projects resulted in over forty publications, chiefly in the *Canadian journal of ophthalmology* and the *Transactions of the Canadian Ophthalmic Society*. Boyd earned following titles: MRCS and FRCS 1954; BS Glasgow 1942; DOMS 1948; CRCS Canada 1959; FRCS Canada 1973. LFRCS

Boyer, Alexis (1757- ?) French physician, for a certain time surgeon-in-chief to Napoleon's army. His first position was copyist to a notary, then at the age of 17 he went to Paris where he became assistant to a barber, at the same time attending lectures in anatomy. He received 1781 a gold medal from the Ecole Pratique du Collège de Chirurgie. He was made 1807 "Baron de l'Empire". Among the books he wrote, the most important is "*Traité des Maladies Chirurgicales et des Operations qui leurs Conviennent*", 11 vols. Paris 1814-26. For its time this huge treatise is interesting for ophthalmologists because its fifth volume is entirely devoted to the diseases of the eyes. American Encyclopaedia of Ophthalmology, vol.2, p.1266.

Boyer, Lucien A.H. (1804- ?) French ophthalmologist, born at Turin (Italy) from French parents, he studied in Paris where he received his medical degree in 1836. He wrote an unsuccessful thesis in an attempt to win the Monthyon prize, titled "*Recherches sur l'Opération du Strabisme*" (2 vols.) 1842-1844. He wrote also "*Discussion Clinique sur quelques Observations d'Hernie Etranglée*" 1849. He was from 1852-1870 physician to the Senate. American Encyclopedia of Ophthalmology, vol.2, p.1266. Albert.

Boyle, Charles Cumberston (1854-1931) American ophthalmologist who wrote: "*Therapeutics of the eye.*" New York 1896. Albert

Boyle, Robert (1627-1691) chemist, physicist, and natural philosopher, born at Lismore, Ireland, was tutored privately and developed interests in astronomy, mathematics, and the empirical method in the physical sciences. He lived in and conducted research at Oxford (1650-1668) and London (1668-1691). Studies in optics and the properties of color were among his experimental work. He authored: "*Experiments and considerations touching Colours*" London 1664. Most of his books were translated into Latin and published in Geneva by de Tournes: "*Experimenta et considerationes de coloribus*". Geneva 1680; "*Disquisition about the final causes of natural things by way of appendix, some uncommon observations about vitiated sight*". London 1688; "*The works to which is prefixed the life of the author.*" (5 volumes) London 1744. Albert, JPW.

Brailey, Arthur Robertson (1877-1930) British ophthalmologist, son of W.A. Brailey, Ophthalmic Surgeon to Guy's Hospital. Brailey was educated at Westminster, he gained a scholarship at Downing College, Cambridge, and completed his medical course at Guy's Hospital, where he gained a University entrance scholarship. He also spent some time in Vienna. Qualifying at "the Colleges" in 1903, he took the M.B., M.C., Cantab. in 1904, having in the previous year obtained his M.A., B.Ch. His F.R.C.S. dated from 1904. He was House Surgeon and Ophthalmic House Surgeon at Guy's Hospital and later Clinical Assistant in the Ophthalmic Department; and he succeeded to his father's practice. Early in the Great War Brailey served in the R.N.V.R., and later became Consulting Ophthalmic Surgeon to the R.A.F. He was Hon. Surgeon to the King and Surgeon-Captain R.N.V.R., in which he held the post of Senior M.O., London Division, the headquarters of which are in H.M.S. President. Brailey contributed papers to the *Transactions of the Ophthalmological Society* on "*Congenital Distichiasis*" and on "*Cysts of the Pars Ciliaris Retinae*" in 1906, 1907; and he was one of the three openers in 1919 in the discussion on the "*Visual Requirement of Aviators,*" when he gave a most practical exposition of this subject. BJO 1930,14:539-540; Guy's Hospital Gazette 1930,44:347; Lancet 1930,2:505, The Times 13 July 1931,19b. LFRCS

Brailey, William Arthur (1845-1915) British ophthalmologist. He gained a scholarship at Downing College, was placed second in the first class of Natural Science Tripos. He took an exhibition in biology at the preliminary scientific examination for the M.B. London and took the M.B. at Cambridge, was elected Fellow of Downing College and remained for some time at Cambridge where he acted as "coach" in the Natural Sciences. He married 1873 and entered general practice at Witham, Essex, Ten months later he returned to London, rejoined Guy's Hospital and became attached to Moorfields Eye Hospital. At Guy's Hospital he was elected demonstrator for anatomy and zoology from 1878 to 1886 and at Moorfields librarian and curator. He remained at Moorfields from 1875 to 1881. Brailey was appointed assistant ophthalmic surgeon to Guy's Hospital in October 1882 and held this office until his retirement in August 1905. In 1880 Brailey took a prominent part in founding the Ophthalmological Society of the United Kingdom, the first president of which was Sir William Bowman, with whom Brailey had formed a

lasting friendship. Many of Brailey's communications can be found in the first volumes of the "*Transactions of the Society*". Most of his contributions in ophthalmology were published in the *Royal London Hospital Reports*, *Guys Hospital Reports* and in the *Transactions of the International Medical Congress* held in London 1881 and in Berlin 1890. He was joint author of the article on the iris and ciliary body in ->Norris and Oliver's "*System of Diseases of the Eye*". In 1885-86 Brailey was Hunterian Professor at the Royal College of Surgeons of England. In 1890 the Middlemore Prize was conferred upon him by the Council of the British Medical Association and he was later elected Honorary Fellow of Downing College, Cambridge. *The Ophthalmoscope*, 1915, p.268-270.

Braille, Louis (1809-1852) French blind teacher of music who modified the ->Barbier dotted system. He went 1819 to the school for the blind in Paris, became proficient on the organ and held a post as organist in one of the Paris churches. He became professor at the *Institution des Jeunes Aveugles* where he perfected the Barbier system having now "letters" in all languages. He wrote: "*Procédé pour écrire au moyen des points*" Paris 1837.[GM 5851]. About his work appeared: "*Anaglyptographie et raphigraphie de Braille*" Paris 1880. *American Encyclopedia of Ophthalmology*, vol.2, p.1267. Albert

Braley, Alson Emmons (1906-1993) American ophthalmologist. He was born in Iowa, attended college and medical school in Iowa City, and in June 1931, with a fresh M.D. in his hand, he married Hazel Deming. After his internship, he spent a year as a pathology resident, taking a special interest in bacteriology while he was waiting for one of the coveted positions as a C. S. O'Brien ophthalmology resident. He began to work with Phillips Thygeson, and together they started some trachoma projects at Fort Defiance, Arizona. After completing his ophthalmology residency in 1937, he stayed on in Iowa City for a year or two as an instructor in the Department of Ophthalmology, continuing his work in virology and trachoma. In 1939, the Braleys moved to Detroit and he practiced ophthalmology with Parker Heath and held an appointment as assistant professor at Wayne State University. In 1941, he took a similar appointment at the Eye Institute at Columbia Presbyterian College of Physicians and Surgeons in New York. From 1943 to 1946 he served in the United States Navy and then returned to Columbia. In 1949, he was appointed professor and head of the Department of Ophthalmology at New York University College of Medicine. The following year, Cecil Starting O'Brien retired and moved to Arizona, and Braley was persuaded to return to Iowa city to take O'Brien's place at the head of his home department. Braley felt comfortable in Iowa City, and he set about making life agreeable for his faculty and residents. He already had P.J.->Leinfelder (neuro-ophthalmology, lens metabolism) and Lee Allen (artist, inventor, photographer, and ocularist) on the faculty and he soon recruited F.C.->Blodi (ophthalmic pathology), Phil Ellis (ocular pharmacology), Hermann->Burian and later Gunther von->Noorden (pediatric ophthalmology), Paul->Boeder (optics), Mansour Armaly (glaucoma), and Ed Ferguson and Bob Watzke (retinal surgery). Braley brought corneal transplantation to Iowa in 1952. From 1954 to 1961 he worked toward the founding of the Eye Bank Association of America, and was its president in 1971. In December 1962, Braley and his fellow ham radio operator, Ted Hunter, started the Eye Bank Network with 15 members. They would meet on the air every evening to chat and to direct available donor eyes to ophthalmologists who needed corneas for keratoplasty. Under Braley's leadership the University of Iowa Department of Ophthalmology grew to become an internationally recognized center for ophthalmic research and teaching. In 1967, he handed over the reins of the department to Fred->Blodi. *AJO* 1993, 116:259-260

Branca (15th century) Italian layman of high distinction in the annals of science, father of Antonio ->Branca. To him is due the revival of plastic surgery, including plastic surgery of the eyelids. *American Encyclopedia of Ophthalmology*, vol.2, p. 1287-1289.

Brandes, Fred (1870-1943) Belgian ophthalmologist who studied ophthalmology in Brussels under ->Gallemaerts and J.B. ->Coppez, in Utrecht under Snellen, in Berlin under Hirschberg and Greef. He published from 1900 many cases of *ocular tuberculosis* at the Belgian Ophthalmological Society. (Verriest)

Braun, Gustav (1824-1897) Russian ophthalmologist who received his medical degree in Moscow 1852 and became military physician 1856. After soon resigning, he turned his

attention to ophthalmology He was appointed Director of the Moscow Ophthalmic Hospital in 1863 and five years later director of the Chair of Ophthalmology at Moscow University. His most important writings are "*De Cornea Fabrica ac Functione Quaedam*" Diss. Moscow 1858; "*Structure and Function of the Retina*" (Moscow Medical Gazette), 1861 ; and "*On the Accommodation and its Anomalies*" (Moscow Medical Gazette), 1861. American Encyclopedia of Ophthalmology, vol.2, p.1289.

Braun, Reinhard (1902-?) German ophthalmologist .University lecturer at Berlin 1933, Professor ,Rostock 1939. Articles in different journals from 1931 until 1948. Kürschners Gelehrten- Kalender 1966,p.256.

Braunschweig, Hieronymus *see* **Brunschwig Hieronymus.**

Brecht, Otto (1864-1915) German ophthalmologist. The Ophthalmoscope,1916, p.391.

Brett, Frederick Harrington (1803-1859) British ophthalmic surgeon. He held several surgical posts in India, including superintending surgeon to the Calcutta Government Eye Hospital. Brett settled in London about 1846 and practiced surgery at the Western Ophthalmic Institution. He was the first surgeon outside America to use ether anesthesia. He wrote: "*On cataract, artificial pupil, and strabismus.*" London 1847 and "*A lecture on the eye to which is added, an account of the first series of surgical operations performed on the eye without pain, under the influence of the vapour of sulphuric aether.*" London 1847.

Brewerton, Elmore (1867-1962) British ophthalmologist who was one of the distinguished ophthalmic surgeons whose period of service covered a remarkable development in ophthalmic medicine and surgery. He said he was the first of the staff of the Royal Westminster Ophthalmic Hospital to take off his jacket and roll up his sleeves to operate. Brewerton entered St. Bartholomew's Hospital in 1890, qualified in 1895, and obtained his F.R.C.S. in 1900. He was on the honorary staff of the Royal Westminster Ophthalmic Hospital till he retired at the age of 60 in 1927, which by a happy coincidence was the opening day of the new buildings of the Hospital. After his retirement he continued with a large private practice till failure of vision from macular retinal degeneration compelled him to give up in 1945. During the 1914-1918 war he had been on the staff of the Fourth London General Hospital and for a number of years was chief assistant in the Eye department of St. Bartholomew's Hospital where he was perhaps unlucky not to be elected to the honorary staff. He was a good operator and his interest in this branch of ophthalmology led to his collaboration with Harold Grimsdale in the production of a *Text-Book of Ophthalmic Operations* -a book which at the time filled a gap in English text-books and which went into several editions. He became a member of the Ophthalmological Society of the United Kingdom in 1899, served as Member of Council 1909-1910 and 1914-1917, was Secretary 1910-1913, and Vice-President 1925-28. He was also President of the Ophthalmological Section of the Royal Society of Medicine. BJO 1963,47:576



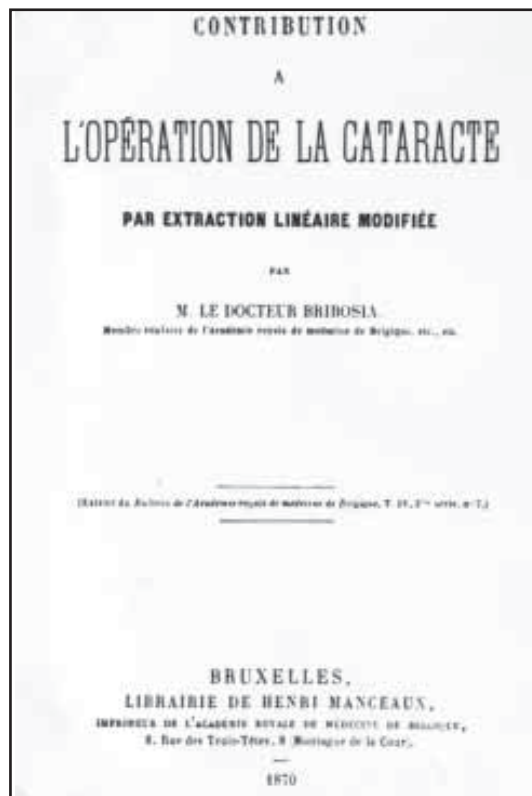
David Brewster

Brewster, David (Sir David) (1781-1868) Scottish scientist, born in Jedburgh, Scotland, and educated at the University of Edinburgh. He became editor of the Edinburgh Magazine and the Edinburgh Encyclopedia, wrote extensively on optics, and was a maker of instruments such as the kaleidoscope and the lenticular stereoscope. His interest in optics led to numerous discoveries, one of which resulted in the introduction of the dioptric system to British lighthouses. Brewster coined the term "*color blindness.*" He was the author of: "*A treatise on new philosophical instruments ... with experiments on light and colours.*" Edinburgh: J. Murray and William Blackwood, 1813; "*On the structure of the crystalline lens in fishes and quadrupeds*" London 1816; "*The Life of Sir Isaac Newton.*" London 1831; "*A treatise on optics.*" London 1831; French edition : *Manuel d'optique; ou traité complet et simplifié de cette science.* (2 vols.) Paris 1833; American edition: *A treatise on optics containing an elementary view of the application of analysis to reflexion and refraction.* Philadelphia 1833; "*Letters on natural magic, addressed to Sir Walter Scott.*" London 1832 ; "*Memoirs of the life, writings and discoveries of Sir Isaac Newton.*" (2 vols.) Edinburgh 1855; "*The stereoscope*" London 1856. Albert, BMC

Bribosia Jr., Edmond (1857-1930) Belgian ophthalmologist. Bribosia confirmed in 1882 the local anesthetic action of cocain discovered the same year by Koller in Vienna. He

used for the first time cocaine at the Namur Ophthalmic Institute in 1884. He wrote also on the use of adrenalin in ophthalmology. (Verriest)

Bribosia Sr., François-Louis (1825-1900) Belgian ophthalmologist. Bribosia was born in Namur and obtained the M.D. degree in Leuven. He studied ophthalmology under von →Graefe and modified his method of linear cataract extraction (1870). He created an ophthalmic institute also in Tournai. He received the order of the Legion of Honor for care of the wounded french soldiers in 1870. He was one of the founders of the French Ophthalmological Society. (Verriest)



Bridgeman, Hon. Geoffrey John Orlando (1898-1974) British ophthalmologist. The Hon. Geoffrey John Orlando Bridgeman, the second son of the first Viscount Bridgeman, was born on 3 July 1898 at 39 Harley Street, London. He was educated at Eton and Trinity College Cambridge, and served in the Royal Field Artillery during the first world war, and was awarded the MC in 1918. He qualified in medicine from St George's Hospital in 1926, took the MB,BCh two years later, and became FRCS in 1933. After working as chief clinical assistant at Moorfields and ophthalmic surgeon to the East Ham Memorial Hospital he was appointed ophthalmic surgeon to St George's and to the Western Ophthalmic Hospital. During the second world war he served as a Brigadier in the RAMC as consulting ophthalmologist India Command. He served his teaching hospital, St George's, most loyally and devotedly, as he also did the Western Ophthalmic Hospital. At Moorfields he worked in Frank Juler's clinic and was deeply grateful to him, and under the stimulation of Keith Lyle he developed a lively interest in orthoptic work. In middle and later life he was increasingly handicapped by deafness, so that in later years he was seldom seen at congresses. Geoffrey Bridgeman made many lasting friendships at Eton and took a prominent part in games. At Trinity College he was awarded a classical exhibition. When he entered Trinity he decided to read medicine and for a time had strong leanings towards

medical missionary work. Throughout his life he was a deeply religious man and in 1919 he married Mary Talbot, a staunch churchwoman. Bridgeman received following titles: MC 1918; MRCS 1926; FRCS 1933; MB,BCh Cambridge 1926; LRCP 1926. Brit. med. J. 1974, 4:474. JPW

Brière, Leon (?- ?) French ophthalmologist. He wrote : "*Etude clinique et anatomique sur le sarcome de la choroïde et sur la mélanose intra-oculaire.*" Paris 1874.

Briggs, William (1642-1704) British physician, born in Norwich, England. Briggs studied medicine with R.Vieussens at Montpellier and at St. Thomas's Hospital in London. He was later appointed physician to St. Thomas's and physician-in-ordinary to William III. Briggs was one of the few seventeenth-century physicians to specialize in treatment of the eye. He provided information for the anatomical study of the eye and worked toward establishing a new theory of vision, based on his understanding of the optic nerves and the optic chiasm. He also provided the first known description of nyctalopia. He authored: "*Ophthalmographia, sive oculi ejusque partium descriptio anatomica.*" Cantabrigiae 1676, second edition London 1685 and third edition Leiden 1686, "*Theory of vision*" 1682. Concise Dictionary of National Biography (Oxford 1903), Daniel M.Albert: Source Book of Ophthalmology, p.48-50; [GM 5822].

Brihaye, born Van Geertruyden, Marthe (1924-) Belgian ophthalmologist. Brihay was born in Etterbeek (Brussels). She obtained the M.D. degree at the Brussels University in 1949 and was attached from 1950 to its Department of Ophthalmology successively as assistant, senior assistant and adjunct departmental head. She obtained in 1963 the special doctorate in ophthalmology with a thesis on the *pigmented choroidal tumors and the origin of the ocular pigments*. In 1965 she became nearly simultaneously professor of ophthalmology at the flemish Brussels University and principal scientific collaborator at the Amsterdam University. Meanwhile she had already made many of her prolonged specialization stays abroad. - 6 months in Paris in 1950, 6 months at the Institute of Ophthalmology in London in 1952-1953, 6 months at the Amsterdam Department of

Ophthalmology in 1964/65, 4 months in several U.S.A Universities in 1969. The main research fields of Mrs. Brihaye and her staff are ocular histo-pathology (already before her 1963 thesis), orbital pathology (*pneumography* in 1960, *orbital tumors* in 1966, *surgery of proptosis* in 1968, *cranio-facial injuries* in 1973, *angiomatic tumors* in 1975), surgical problems such as *cryocoagulation* (experimental studies from 1966 to 1975, with a report for the French Ophthalmological Society in 1971), *phakoemulsification* (from 1972), *experimental and clinical laser treatment* (as from 1975 extensive studies on the effects of Argon laser on the retina, and more recently *effects of Nd YAG laser on the anterior segment and of Argon and Nd YAG laser in glaucoma*). Most of the experimental work was made in cooperation with the Interuniversity Institute of Ophthalmology of the Netherlands in Amsterdam. Recent papers were devoted to specular microscopy of the corneal endothelium. Moreover we could mention many clinical contributions. Mrs. Brihaye has been president of the Belgian Ophthalmological Society (dutch-speaking meeting) and of the Francois Foundation. (Verriest)

Brisseau, Michel (1676-1743) French physician at the Royal Hospital at Douay, France, and a professor of medicine. Neither an ophthalmologist nor a surgeon, he wrote three books describing the nature and location of the cataract as a hardening and clouding of the lens. He published: "*Traité de la cataracte et du glaucoma* ." Paris 1709 [GM 5825]. A German edition was published in Berlin: "*Abhandlung von dem Grauen Stahr und dem Glaucoma oder Grünen Stahr*" Berlin 1743. Albert

Brodhurst, Bernard Edward (1822-1900) British surgeon. Brodhurst first studied general surgery in London and Paris, and, later ophthalmic surgery in Vienna under Jaeger and Rosas. However he returned to his initial interest and became an well known orthopedic surgeon in London. He wrote: "*On the crystalline lens and cataract*." London 1850. Albert

Bronner, Adolph (1860-1936) British ophthalmologist. Of German extraction, he was the son of Edward Bronner, M.D., of Bradford, who took a prominent part in founding the Roval Eye and Ear Hospital of that city. Bronner was educated at Bradford and the University of London. He spent a good deal of time abroad at German Universities and qualified M.D. at Heidelberg in 1884. On his return he became a clinical assistant at Moorfields and took the M.R.C.S.(Eng.) in 1885, before settling in his native city. Bronner succeeded his father as surgeon to the Bradford Eye and Ear Hospital in 1886. The combination of ophthalmology and laryngology in one person was not uncommon at that time, and Bronner combined the work at Bradford, for he became Laryngologist at the Bradford Royal Infirmary. He was a most popular consultant in the north. He was at one time president of the Bradford Medico-Chirurgical Society; and he was also president of the Leeds Medico-Chirurgical Society. On retiring from practice Bronner was elected Consulting Surgeon to the two hospitals he had served so well; while his memory is enshrined in the Bradford Eye and Ear Hospital by a tablet, placed beneath that in memory of his father. Of his work for laryngology this is not the place to say more than that he was secretary of the section of laryngology at the International Medical Congress at Rome in 1894. Bronner joined the Ophthalmological Society of the United Kingdom in 1886 and served on the Council for a period of three years, early in the 20th century. He contributed many papers of clinical importance to the Transactions and frequently joined in discussions. The subjects of these papers covered a wide range in ophthalmic medicine and surgery. BJO 1936

Brown, Albert L. (1899-1963) American ophthalmologist born in Cincinnati who received his undergraduate education in that city. He was graduated from the College of Medicine, University of Cincinnati, in 1922 and interned at the Cincinnati General Hospital. His postgraduate training was at Wills Eye Hospital, Philadelphia, and the Massachusetts Eye and Ear Infirmary, Boston. Brown began practice in Cincinnati and served on the staff of the Jewish, Children's and Christ Hospitals. He was a member of the American Ophthalmological Society and the American Academy of Ophthalmology and Otolaryngology and was presented with the "Key" to that organization. He also served on the National Research Council. In his earlier years, he pursued intensive research at the Children's Hospital where among other studies, he contributed to our knowledge of uveitis and its treatment. Brown was one of the first in the United States to operate for retinal

detachment following its introduction several years earlier by →Gonin and →Lindner and →Guist in Europe. During World War II, his efforts were turned to the study of gas burns and he traveled extensively in this country conducting classes and lecturing on this subject. He went to England and Scotland on the same mission in 1942. Brown wrote extensively on the subjects and investigations of his interests. More than 30 of his contributions has been published. *AJO* 1964,57:496-497

Brown, Edward Vail Lapham (1876-1953) American ophthalmologist, born in Morrison, Illinois. Edward Brown sought and received a very broad medical education in Chicago, taking up ophthalmology as a specialty soon after his graduation from Rush Medical College. At the Illinois Charitable Eye and Ear Infirmary -one of the institutions indebted to Brown for a permanent elevation of its scientific status- he came under the influence of Ferdinand Carl Hotz, the German-born physician and pupil of Helmholtz and Graefe who had brought the benefits of almost the broadest possible scientific horizon into ophthalmology. To some extent it was Hotz's influence that induced Brown, already a licensed physician practicing ophthalmology, to take further scientific collegiate work which earned him the degree of bachelor of science from the University of Chicago in 1902. Early in his professional career he established personal contacts with several of the European schools. He was particularly attracted by the Viennese group, its master Ernst Fuchs and his associates, Salzmann, Meller and Lindner. It has been said that E. V. L. Brown's ophthalmologic thinking was more European or Austrian than American. Brown was fundamentally a seeker of breadth in medical thinking, a synthesist of findings and views if they stood up under his ultra fair but nevertheless critical analysis. The Viennese school undoubtedly impressed him deeply and, for a long time, held a central position in his ophthalmologic horizon. This manifested itself in Brown's early publications dealing with the patho-histology of uveitis, his translation of Salzmann's *Histology of the Human Eye* (The University of Chicago Press, 1912), and, some years later, of Fuchs's *Textbook of Ophthalmology*. But the second decade of the 20th century found him busily engaged in a typically American field of study-the concept of focal infection applied to ophthalmology. Setting a lasting example of mutually fruitful cooperation between ophthalmologist and internist, E. V. L. Brown and Ernest E. Irons made systematic clinical studies of the incidence of foci of infection in cases of uveitis, of the relationship between the activity of these foci and the activity of the uveitis, and of the effect of eradication of these foci upon the course of the uveitis. Continued for over 15 years with the greatest possible objectivity and accuracy of observation these studies became a classic in the field of uveitis, establishing a standard for all subsequent investigations into the etiology of uveitis. One other field of special interest to Brown, was the application of statistical methods to the refractive state of the human eye and the variations of this state during life. An ardent advocate of the most complete cycloplegic as a means of arriving at basic refractive measurements he had in his office and university records an inexhaustible source of reliable data concerning refractive changes in the same individual. These data were the basis of several important publications. In recognition of his devotion to ophthalmology as an academic discipline and of his extraordinary ability as an administrator and teacher, Brown was offered more headships of departments and occupied such positions for longer than most academicians of his generation. From Rush he moved to Illinois in 1917 and from there to Chicago in 1926. When the statutes of the University of Chicago forced him to retire from the headship of a department that he had built up "from scratch" and guided to national prominence during 16 years of tenure, his friends at the Presbyterian Hospital prevailed upon him to accept the chairmanship of their Department of Ophthalmology, thus extending by another five years Brown's already very long academic life. Throughout his life Brown managed, by means of a very strict schedule, to divide his long working hours equally between private practice and academic work. Brown's favorite ophthalmologic society was the American Ophthalmological Society of which he became a member in 1908, president in 1940, and recipient of the highest award, The Howe Medal, in 1942. Aside from the directly ophthalmologic approach to blindness he very generously lent his services to organizations for the prevention of blindness or betterment of the status of the blind. For 33 years he was a devoted member of the Board of Directors of the Illinois Society for the Prevention of Blindness. In that capacity he worked tirelessly not only toward making all prevention programs of the society more effective, but also toward raising the necessary funds. In recognition of his work on behalf of the blind, The St. Louis Society for the Blind

awarded him the Leslie Dana Gold Medal in 1951. During the latter years of his life, E. V. L. Brown added to his many self-imposed duties the betterment of the social, professional, and scientific status of the black medical student and the black physician. His appointments to the chairmanship of the Chicago Committee on Human Relations and to the presidency of the Board of Trustees of Provident Hospital in Chicago were indicative of his feelings and aims in these matters. AJO 1953,36:865-867

Brown, Robert G W (? -) British scientist. Brown graduated in Physics from London University in 1973. Most of his research career has been spent at the Royal Signals and Radar Establishment in Malvern, UK, the UK Government's Electronics and Radar research center. There he researched photon correlation techniques and their applications to measurement of velocity and macromolecular suspensions, specialising in the use of new opto-electronic technologies. In 1990 he was appointed Head of Opto-Electronics Research at the newly formed Sharp Laboratories of Europe in Oxford, a European Research Center for the Japanese company Sharp Corporation. Since then the laboratory has grown substantially, now exceeding 60 scientists and engineers, with strong activities in semiconductor opto-electronics and displays. In late 1998, Professor Brown was appointed Editorial Director of the Institute of Physics. Dr Brown is a Fellow of the Institute of Physics, a Fellow of the Institute of Electrical Engineers and a Special Professor in the Department of Electrical and Electronic Engineering at Nottingham University. Recently he co-authored a *History of Optics and Opto-electronics* in the Twentieth Century, published in *Twentieth Century Physics* by IOPP and AIP, 1995. (JPW)

Brown, Samuel Horton (1878-1940) American ophthalmologist. Brown was born in Philadelphia and received his medical degree in Pennsylvania University in 1899. With deSchweinitz and Zentmayer, he took the first examinations of the American Board of Ophthalmology when they started it in 1917. He wrote some important ophthalmic subjects, but never was active in the national societies. His later years were given to building up the Bulletin of his country society, and to supporting its Section on Diseases of the Eye. Brown was a Fellow of the College of Physicians of Philadelphia, with its Section on Ophthalmology, and also of the American Academy of Ophthalmology and Otolaryngology. He lived and worked in the most active period of the development of modern ophthalmology, but he kept his interest in developments in other parts of the broad field of medicine. Brown wrote with William C. Posey: *The Wills Hospital of Philadelphia. The Influence of European and British Ophthalmology upon It, and the Part It Played in the Last 100 Years in Developing Ophthalmology in America*. Philadelphia, Lippincott, 1931. AJO 1940,23:1061; JPW

Browne, Edgar Athelstane (1841-1917) British ophthalmologist born in London, son of Hablot K. Browne who signed many of Charles Dickens illustrations in his early works with "Phiz". Browne studied medicine at St. Thomas's Hospital. In 1864 he took the diplomas M.R.C.S. and L.M., and L.S.A. in 1865 establishing himself in general practice in Liverpool. He soon after was appointed surgeon to St. George's Hospital for skin diseases and assistant surgeon in the Eye and Ear Infirmary, devoting himself thereafter exclusively to ophthalmology. In 1884 he became Lecturer on ophthalmology at Liverpool University. He received from that University in 1907 the degree of M.Ch.. Browne wrote: *"How to Use the Ophthalmoscope"* (1877) and jointly *"Manual of School Hygiene"*. AJO, vol. 1, p.292-293; Brit.J.O. Vol. 1, p.589. Albert. JPW

Browning, Sidney H. (1884-1968) British bacteriologist. Browning qualified from Guy's Hospital, and after fulfilling resident posts, including that of house surgeon to Arbuthnot Lane, came under the aegis of Professor Eyre, one of the leading bacteriologists at a time when that science was in a period of active development and growth. A growing point was the bacteriology of the eye, in which Professor Eyre was particularly interested and in which he was a pioneer. Doubtless this influenced Sidney Browning, who made it his specialty. In 1910 he was appointed bacteriologist to Moorfields Eye Hospital and held the post for 33 years, retiring in 1943, when he was appointed honorary consulting bacteriologist. He was indeed part of the Hospital over all that period; the surgeons and generations of residents appreciated his ready help and his good humour. Countless ophthalmologists in training received their special knowledge from his systematic lectures, which were much valued for their incisiveness and from his carefully prepared specimens.

He was one of the very few surviving Foundation Members of the Oxford Congress, of which he had been Deputy Master; in late years his two favourite jaunts had been Henley Regatta and the Congress, which he last attended in 1963. He was a qualified engineer, and on leaving Hospital was appointed Managing Director of a well-known engineering firm—surely a rare achievement for a medical man. After some years he retired completely and went to live alone in a cottage at Kingston Deverill near Warminster. BJO 1968,52:287

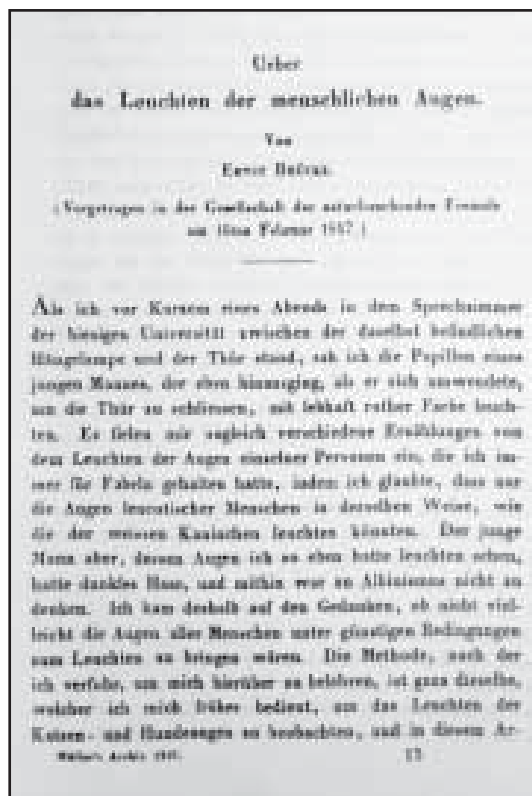
Brubaker, Richard Fretwell (1937-) American Ophthalmologist, Professor of Ophthalmology at Mayo Clinic. He graduated from Harvard Medical School in 1963 with his MD degree granted, and studied Ophthalmology at Massachusetts Eye and Ear Infirmary under Prof. D. G.→Cogan (1964-1968) and further extended his studies at the National Institute of Health under Prof. Ludwig von Sallmann (1968-1970). He has worked at the Mayo Clinic since 1970, Professor of Ophthalmology of Mayo Medical School (1980-2000), Chairman of the Department of Ophthalmology (1984-1992), President of Mayo Staff, Mayo Clinic Foundation (1990), Medical Director, Mayo Medical Ventures (1994-2000) and Member of Board of Trustees of Davidson College (1999-). He is very active in research with a particular attention to physiology and pathology of aqueous humor circulation and glaucoma: for the excellence of his research, he received many honor Awards, e.g. Alcon Research Award, 1984, 1995, NIH MERIT Award of the National Eye Institute (1989), von Sallmann Prize from the International Society of Eye Research (1990)(publication ?), Friedenwald Award from the Association for Research in Vision and Ophthalmology, 1991 (*Flow of aqueous humor in humans*. Invest. Ophthalmol. Vis. Sci. 32: 3145, 1991) and 52nd Edward Jackson Memorial Lecture (*Delayed functional loss in glaucoma*. Am. J. Ophthalmol. 121: 473, 1996). Some examples of his recent publications are “*The effect of dorzolamide on aqueous humor dynamics in normal human subjects during sleep*. Ophthalmology 105: 1537, 1998”, “*Tonometry and corneal thickness*. Arch. Ophthalmol. 117: 104, 1999” and “*Measurement of aqueous humor flow by fluorophotometry in the presence of a dilated pupil*. Invest. Ophthalmol. Vis. Sci. 40: 542, 1999”. (Department of Ophthalmology, Mayo Clinic, 200 First St. SW Rochester MN 55905, U.S.A., phone: +1-507-284-3760; fax: +1-507-284-8566; e-mail: brubaker.richard@mayo.edu)(SM)

Bruce, Gordon M. (1901-1992) Canadian ophthalmologist, born in Nova Scotia. Dr. Bruce attended Acadia University and Columbia University and received both the B.A. degree and the M.D. degree (1925) from Dalhousie University. He interned at the Royal Victoria Hospital, Montreal, and was a resident (1926-1928) at the Herman Knapp Memorial Eye Hospital, New York, under the demanding Arnold →Knapp. He described the Knapp Hospital in the last of some 40 articles he wrote (Surv. Ophthalmol. 19:240, 1975). He spent the last six months of 1928 at Oxford University, where he received the Diploma in Ophthalmology. He earned the Doctor of Medical Science (Ophth.) degree from Columbia University in 1934. Bruce returned to New York from Oxford to become the first geographic ophthalmologist at the newly organized Columbia- Presbyterian Medical Center. In 1979 he was appointed special lecturer and consultant to the Medical Center. He was professor of clinical ophthalmology at the College of Physicians and Surgeons of Columbia University and at the end of his active professional career became professor emeritus. At the time of the attack on Pearl Harbor, Bruce was a Lieutenant Commander in the Naval Reserve. Through his own vigorous efforts he was assigned to the Marine Corps and became a regimental surgeon and then a commander of the medical battalion of the Third Marine Division, which first saw combat at Guadalcanal. He was awarded a Silver Star for gallantry in action. He received a Gold Star in lieu of a second Silver Star while he was commanding officer of the Third Marine Divisional Hospital. He received the rank of Rear Admiral. After World War II, he became a consultant to the Surgeon-General of the Navy and consulting ophthalmologist to the Veterans Administration, the Englewood General Hospital, and the Yonkers General Hospital. He was elected to the American Ophthalmological Society in 1938, and was editor of the Transactions (1950-958), where he provided the first detailed instructions to the authors of theses. He served on the Council of the American Ophthalmological Society, and in 1968 became its president and a member of the Harkness Eye Institute group of past and future Society presidents (A.→Knapp, →Dunnington, →Reese, →Wheeler, →Atkinson, →DeVoe,

→McGuire, →Wadsworth, →Calhoun, →McCulloch, →Guerry, and →Straatsma). In 1973 he received the Howe Medal of the Society. Bruce served as vice-chairman of the Section on Ophthalmology of the American Medical Association, president of the New York Ophthalmological Society, and trustee of the New York Academy of Medicine. He was an honorary member of Alpha Omega Alpha, the honorary medical society. *AJO* 1992,114:245

Brücke, Ernst Wilhelm von (1819-1892) Austrian professor of physiology at the University of Vienna (1849-1892), whose most important investigations were in physical and physiological optics and color theory. Born in Berlin, he studied medicine there and in Heidelberg (M.D., 1842). In the 1840s he devised techniques that paved the way for

Helmholtz's invention of the ophthalmoscope. This technique was published in *Arch. Anat. Physiol. wiss. Med.*, 1845, p.387-406 under the title "*Anatomische Untersuchungen über die sogenannten leuchtenden Augen der Wirbelthieren*". He also authored "*Anatomische Beschreibung des menschlichen Augapfels*". Berlin 1847; "*Untersuchungen über den bau der muskelfasern: mit hülfe des polarisirten lichtes*" Wien 1858; "*Die Physiologie der Farben für die Zwecke der Kunstgewerbe*" Leipzig 1866, which appeared also in a French edition: "*Principes scientifiques des beaux-arts*" Paris 1878. Albert



Ernst Brücke's famous paper, so important to the ophthalmoscope's history.

Brückner, Arthur Bernard (1877-1975) Swiss ophthalmologist. MD in Würzburg 1901, the same year to Leipzig until middle of 1903 under →E.Hering & →A. Bielschowski, from 1903 University Clinic under →C.von Hess in Würzburg, 1907-20 in Königsberg under →Krückmann, 1921-22 Chair in Jena, and from 1923-48 in Basle (Switzerland). Edited with →Schieck: "*Kurzes Handbuch der Ophthalmologie*(6 vols.)". Editor from 1938 of "*Ophthalmologica (Basle)*". Countless papers most about physiology of the senses, relationship between human body & the eye, relationship between blood & the eye. Colour perception. Kürschners Gelehrten- Kalender 1966,p.280.

Brun, André Félix (1854-1903) French ophthalmologist who co-authored with Victor →Morax (1866-1935) "*Thérapeutique oculaire.*" Paris 1899. Albert

Brunacci, Giovanni (1711-1772?) Italian physician who wrote "*Conforti della medicatura degli occhi*" Padova 1765. Albert

Bruner, Williams Evans (1866-1964) American ophthalmologist, born in Columbia, Pennsylvania. In 1888, he graduated with honors from Wesleyan University, Middletown, Connecticut, where he was elected to Phi Beta Kappa. Bruner received his medical degree from the University of Pennsylvania in 1891 and served as assistant to Dr. George de →Schweinitz until 1893. In addition to work at the Philadelphia General Hospital, he had training at the Philadelphia Polyclinic and at Jefferson Medical College. In January, 1894, Bruner moved to Cleveland where he began the practice of ophthalmology. At Western Reserve University he served as clinical assistant in ophthalmology until 1912 when he became a clinical professor. In 1915, he was appointed professor of ophthalmology and chairman of the department, a position he held until 1936. Bruner carried on a large surgical and consultant practice until his retirement in 1952. He was associated for many years with his nephew, the late Dr. Abraham Bruner, who died in 1957. W. E. Bruner was the author of numerous papers on ophthalmologic subjects. He served as an associate editor of the *American Journal of Ophthalmology* and *Annals of Ophthalmology*. In World War I he held the rank of major in the Medical Corps of the Army and served in the office of the Surgeon General. He had been a member of the American Ophthalmological Society for 57 years, since his election in 1907. In 1913 he was a founder and fellow of The American College of Surgeons and he was an early Member of the American Academy of Ophthalmology and Otolaryngology. Bruner was active in his local medical community, serving as president of the Cleveland Academy of Medicine and president of The Cleveland Medical Library Association. *AJO* 1965,59:720-721

Brunschwig, Hieronymus (c.1424-c.1534 according to Malgaigne). He studied in Bologna, Padua and in Paris to become a very distinguished surgeon. Brunschwyc is chiefly remembered for the fact that he was probably the very first to use a magnet to remove magneto-attractable foreign bodies from the eye. The passage where he describes this operation is to be found in his "*Dis ist das Buch der Chirurgia Hantwirkckung der wundartzey von Hyeronimo brunschwig*" Strassburg 1497.[GM 5559]. American Encyclopedia of Ophthalmology,vol.2,p.1321-1322.

Brunschwyc Hieronymus *see* **Brunschwig Hieronymus**.

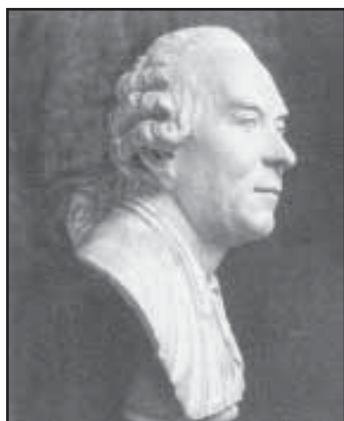
Buchanan, Leslie (1868-1943) Scottish ophthalmologist who received his medical training in Glasgow University, where he graduated M.B., C.M., in 1898. As House Surgeon in the Glasgow Eye Infirmary, from 1891 to 1892, Buchanan decided to devote himself to ophthalmology, and having joined the visiting staff of the Infirmary, he was, in succession, Assistant Surgeon and Surgeon, retiring from the latter post soon after the Great War. For some years he held the post of pathologist to the Eye Infirmary, and in histology and photomicrography he found his chief recreation, inspired, no doubt, by the enthusiasm of his former chief Dr. Thomas Reid. He became a member of the Ophthalmological Society in 1901, and during the succeeding fifteen or sixteen years, made many contributions to the Transactions of the Society, mainly on pathological topics. Of outstanding interest and value were his papers on the histology of uveal disease and on birth injuries of the eye. His work on birth injury of the cornea, in conjunction with Ernest Thomson, established the knowledge of the pathology of this condition. For many years Leslie Buchanan played an important part in the teaching of ophthalmology and many oculists practising in Glasgow and elsewhere, owed their early training, both pathological and clinical, to his encouragement and example. BJO 27,429-430,1943

Bücklers, Max (1895-?) German ophthalmologist. University lecturer in Tübingen 1932, Professor extraordinary 1938, Professor 1939, in Bonn 1951. Albrecht von Graefe prize 1939. Kürschners Gelehrten- Kalender 1966, p.300. He wrote: *Die erblichen Hornhautdystrophien* Stuttgart 1938.JPW

Bucklin, C.A., (?-?) American surgeon at the New York Eye, Ear, and Throat Institute. He wrote: "*The detection and correction of visual imperfections with test-type*". New York 1880. Albert

Budge, Julius Ludwig (1811-1888) German neurophysiologist who made important discoveries about the functioning of the sympathetic nervous system. Budge studied in Marburg, Berlin, and Würzburg, and became professor of anatomy and physiology first at Bonn and then Greifswald. He identified the ciliospinal center, now called Budge's center. He wrote: "*Über die Bewegung der Iris*" Braunschweig 1855. Albert.

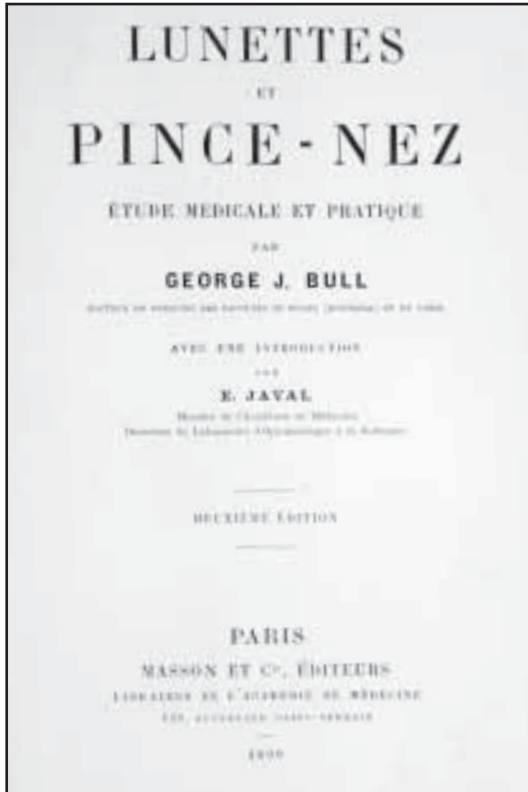
Buffon, George Louis Leclerc, Comte de (1707-1788) French scientist, born at Montbard. He first studied law at the Jesuit College in Dijon and later devoted himself entirely to science. He was admitted to the Academy and in 1739 appointed director of the "*Jardin du Roi*". He then had the idea of his famous "*Histoire Naturelle*" in which all the known facts of natural science were to be embodied and discussed. The 44 volumes of his "*Histoire Naturelle*" appeared between 1749 and 1804. This work brought him an immense reputation and was translated into most of Europe's languages. He was made *Comte de Buffon* by King Louis XV. He is interesting for ophthalmology, because more than two and a half centuries before he had already tried to explain squint: "*Sur la cause du strabisme ou des yeux louches*"[Memoires de l'Academie, 1743]. (See:Frans Cornelis→Donders in his "*Accommodation and Refraction of the Eye*", p.413). American Encyclopedia of Ophthalmology,vol.2,p.1323-1324. [GM 324].



Goerges Louis Buffon

Bull, Charles Stedman (1844-1911) American, New York ophthalmologist. He received his general and special training at Columbia, where he obtained this Bachelor of Arts in 1864, Master of Arts in 1867 and his medical degree in 1868. The next two years were spent as *interne* at the Bellevue Hospital. He then studied in England, Germany, France and Holland under famous teachers in pathology and ophthalmology: R.Virchow, H.v →Helmholtz, Albrecht von →Graefe, →Jaeger, Louis de→Wecker and Frans Cornelis→Donders. He returned to New York in 1871 and engaged in general practice, but

being unsuccessful he moved to St.Louis in 1872, than returned to New York and started a practice in ophthalmology. He had numerous lectureships, professorships and positions in hospitals and was prominent in medical society. Nearly all the articles he wrote are to be found in the American Journal of Medical Sciences. Together with Dr. D.B. St.John Roosa he translated Carl→Stellwag von Carion's "*Krankheiten des Auges*": *Diseases of the Eye*. American Encyclopedia of Ophthalmology,vol.2, p.1329-1330. The Ophthalmoscope, 1911,p.465.



Bull's book on spectacles with an Introduction by Emile Javal.

Bull, George Joseph (1848-1911) French ophthalmologist of Canadian birth and education. He received his degrees of M.D. and C.M. at McGill University in Montreal in 1869 and was engaged in general practice at Worcester, Mass. He then moved to Denver where he practiced only ophthalmology, shortly after he went to New York and there became connected with the Manhattan Eye and Ear Hospital and the New York Post-Graduate Medical School. He then settled in Paris 1886 where the greater portion of his excellent services to ophthalmology was performed. There he proceeded to take the Parisian Medical Degree and became connected with the Sorbonne and later was associated in practice with the famous Dr.Emile →Javal. He delivered numerous valuable scientific contributions chiefly on refraction, accommodation and strabismus. He wrote: *Lunettes et Pince-Nez* Paris 1899. American Encyclopedia of Ophthalmology, vol.2, p.1336-1337. The Ophthalmoscope, 1911,p.158.JPW

Bull, Ole Bornemann (1842-1916) Norwegian ophthalmologist of Christiania, a son or nephew of the famous 19th century concertizing Oslo violonist. Ole Bull also was an artist (painting) and an ophthalmic surgeon especially interested in normal and pathological physiology of the eye. In 1871 and 1872 he held the State Scholarship to study eye diseases of lepers in Bergen. The result was a short but excellent work which he co-authored with Armauer →Hansen (a famous ophthalmologist who was focused on lepra research and who discovered the lepra bacillus by the hydrate of potash method): "*The Leprous Diseases of the Eye*" Christiania 1873, with excellent water-colours from Bull's hand. >From 1878 to 1881 Bull was first assistant at the University Dermatological Clinic in Christiania. Here he discovered, examining the fundus of all syphilitic patients, the specific neuroretinitis of the early secondary stages of that

disease. Bull's fundamental monograph on that subject "*The Ophthalmoscope and Lues*" Christiania 1884, would be better known if it had been published in another and bigger country. Another work of importance and also little known is his "*Chromatoptometriske Tabeller*", Christiania 1882 (with text in Norwegian, English, French & German) which was very useful in the diagnosis of central scotoma in tobacco amblyopia and retrobulbar neuritis. All the fifty cartons of his "tables" were painted by himself, the art of reproduction at his time not being able to master this task. He also wrote: "*Perimetrie*", Bonn 1895, "*Krankheiten der Retinalgefäße*" Leipzig 1903 (with forty-one diagrams and thirty coloured pictures of the fundus). A wealth of observations can also be found in his contribution in Graefe's *Archiv für Ophthalmologie*, vol.XXVII(1881) "*Studien über Lichtsinn und Farbensinn*". Bull was an excellent water-colourist and sculptor, a skill he loved to use during his holidays. The Ophthalmoscope, 1916, p. 448-450.JPW

Buller, Frank (1844-1905) Canadian ophthalmologist. Graduated in Medicine at Victoria College Coburg. He proceeded to Europe to spend two years in study where he had personal instruction by Hermann von →Helmholtz and Albrecht von →Graefe. In 1872 he left for London, remaining there several years of which two at the Royal London Ophthalmic Hospital where he worked with →Hutchinson, →Critchett, →Hulke, →Lawson and others. Buller returned to Canada in 1876 and was appointed first ophthalmic and aural surgeon to the Montreal General Hospital. He remained there until 1894 and then accepted a similar position in the Royal Victoria Hospital. He was the first Professor of Ophthalmology and Otology in McGill University, a position he held until his death twenty-two years later. Buller wrote about 75 articles. The Ophthalmoscope, London 1906,p.53-54. American Encyclopedia of Ophthalmology,vol.2,p.1330-1336(extensive bibliography!).

Bumstead, Freeman J. (1826-1879). American. Professor of syphilology at the College of Physicians in New York 1863 -1871; he then undertook two years scientific travelling and was from 1874 at the New York Eye and Ear Infirmary. He was one of the founders of the *American Ophthalmological Society*.

Bunge, Eduard (1903-?) German ophthalmologist. University lecturer at Kiel 1935 and Breslau 1940. Kürschners Gelehrten- Kalender 1966,p.310.

Buonagurelli, Francisco (2nd half of the 18th century) Italian physician who wrote: "*Lettera di Francesco Buonagurelli ... pubblico dimostratore di operazioni chirurgiche alla cura di due piaghe nei sacchi lacrimali*" Firenze 1787. Albert

Burch, George James (1852-1914) British scientist from Oxford. Fellow of the Royal Society. He was professor of physics at University College, Reading, and University Extension Staff Lecturer at Oxford. Burch was known for his research on electricity and light in their relation to physiology and also became an authority on colour-vision. Since the institution of the Diploma of Ophthalmology by the Oxford University, Burch lectured on physiological optics. Several contributions are to be found in *The Ophthalmoscope*. The Ophthalmoscope, London 1914,p.253.

Burchell, Edgar Brower (1872-1960) American scientist, Honorary Member of the American Academy of Ophthalmology and Otolaryngology. With a bare grammar school education, he progressed from a "\$17.00 a month" porter at the New York Eye and Ear Infirmary to consultant and teacher of the leading Eye, Ear, Nose and Throat surgeons of the world. In recognition of his phenomenal achievements, he was given the honorary degree of Doctor of Science by Roanoke College in 1934, was made the first Honorary Member of the American Academy of Ophthalmology and Otolaryngology in 1944. Burchell, or "Eddie" as he was known to his close friends, performed many of the tests with the late Dr. John E. Weeks to confirm the cause of "*pink eye*" and finally isolate the Koch-Weeks bacillus. He was a pioneer in the use of snake venom in ophthalmology and collaborated with Noguchi in his trachoma investigations. He assisted the late George Sloan Dixon in the "*Sweet-Dixon*" X-ray localization of foreign bodies of the globe and the production of anatomic stereographs which are to-day unexcelled for teaching and demonstrations. He prepared more than 100,000 stained sections of the human eye during his 60 years of service at the Infirmary and finished more than 500 preparations of the temporal bone and accessory, sinuses. It was from his specimens that the operation for facial palsy was developed in the United States. His proficiency in bacteriology caused John M. Wheeler to invite him as preoperative consultant before the operation for cataract on King Prajadhipok of Siam. He gave courses and lectures in many cities of the United States and foreign countries and frequently accompanied the late Bernard Samuels on his lecture tours. He was one of the original instructors in bacteriology in the graduate course of ophthalmology at New York University Medical School. Born of poor parents on the lower east side of New York, Edgar Burchell was left an orphan at an early age by the death of his father, who was a carpenter. He was forced to stop school and go to work as a jeweler's apprentice to aid his mother in the home. After a few years, he began work as a porter in what was later called the Eno Laboratory of the New York Eye and Ear Infirmary. One of his duties was cleaning test tubes and other laboratory equipment. He developed an interest in the tests and experiments in progress and became an invaluable assistant to Dr. Weeks and others. One of the doctors discarded an old copy of Gray's *Anatomy* and it was from this book that young Burchell gleaned his basic knowledge of the eye and the ear, nose and throat. When the Spanish-American war began, he enlisted as orderly to the late Walter E. Lambert, an ophthalmic chief at the Infirmary. He was in training at Chicamaugua in 1898 and participated in the campaign at Matanzas, Cuba. In 1925, he was given the medal of Meritorious Service, New York's highest award, and a regimental review by the National Guard of New York in the Mall of Central Park. After his return to the Infirmary from Cuba, he became a technician, learned bacteriology and continued his interest in anatomy. Robert G. Reese became interested in his work and sent him to Vienna to learn the techniques used in the laboratories of Salzmann and Fuchs. While in Europe, he investigated and prepared specimens of the eye, the temporal bone and nasal accessory sinuses. With this background, he soon became an authority on these preparations and was also given the title of bacteriologist and serologist at the Infirmary.

He became a teacher of doctors and a consultant to the chiefs of service. He was a great raconteur and invariably spoke at all alumni functions, and was acclaimed at every banquet. AJO 1960

Burchhardt, Max (1831-1897) German physician. He received his MD in Berlin and became a lecturer there. He accepted a similar position in Königsber and returned 1874 to Berlin where he remained until his death, holding simultaneously the position of Chief Physician of the Staff at the Militärturnanstalt, Chief Physician of the First Berliner Garnisons-Hospital and of the Ophthalmic Division of the Charité. He wrote a few articles on ophthalmology and "*The Practical Diagnosis of Simulation*" 1875, 2nd edition 1878. American Encyclopedia of Ophthalmology, vol.2, p.1340-1341.

Burdon-Cooper, John (1878-1968) British ophthalmologist. John Cooper was born in Washington, Durham, in 1878. After his early schooling in Gateshead, he entered the Durham College of Science in 1893 at the early age of 15 years. Here he took a science degree in chemistry at the age of 18, being awarded the Cochran Medal, and then for a short period worked as a chemist at Middlesbrough before returning to the University as assistant to the Professor of Chemistry, Sir Peter Bedson. This early training and interest in chemistry was a major influence in his subsequent medical work. During this period he was cared for by and owed much to his grandfather, James Burdon, an official of the Washington Chemical Co., a debt which he later recognized by taking the name of Burdon-Cooper. Financed largely by his work in chemistry, he registered as a medical student in 1898 and qualified in 1902, later proceeding to the degree of M.D. and becoming F.R.C.S. (Edin.). A major turning point in his ophthalmological career was reached when he joined Ernest Maddox in Bournemouth in 1903, with whom he worked as assistant for 3 years; in 1904 he married Mrs. Maddox's sister. This friendship and relationship added to the great mutual interests between them. In 1906 he started practice in Bath, which throughout his life remained his professional home; here he was appointed surgeon at the Bath Eye Hospital and added greatly to its reputation. It is interesting that in 1910 he was one of the few (with Ernest Maddox) who took the first D.O. (Oxon.). In Oxford he lectured for 3 years after 1918 on physiological optics, and in 1921 he gave the Doyne Memorial Lecture on the *aetiology of cataract*. Burdon-Cooper made many important contributions to ophthalmology, most of them stimulating and many of them provocative, but he will always be remembered for his work on the biochemistry of the cataractous lens which earned him international fame. He found a considerable number of trace-elements in the normal lens (iron, zinc, copper, manganese, strontium, lead, silver, boron, and silicon), but his main work published between 1914 and 1933 concerned the chemical changes and particularly the deposition of inorganic materials in crystalline or other forms in the cataractous lens. His last paper, written in 1961, and delivered at the 150th anniversary of the founding of the Bath Eye Hospital, is full of delightful anecdotes. BJO 1969,53:143

Burian, Hermann Martin (1906-1974) American ophthalmologist. Burian was born to Austrian parents in Naples, Italy, where his father, a distinguished physiologist, headed a division at the famous Stazione Zoologica. The family moved later to Leipzig and Belgrade where his father held professorships. Burian received his elementary and secondary education in Naples and Leipzig and obtained his medical degree from the University of Belgrade in 1930. Between 1931 and 1936 he worked in the laboratories of such illustrious teachers as →Weigert (Leipzig), →Siegriest and →Goldmann (Berne), and →Tschermak and →Schubert (Prague). He studied photochemistry, visual physiology, and visual optics; it was during these years that his lifelong interest in visual research was kindled. In 1936 he accepted an invitation to join Alfred→Bielschowsky at the Dartmouth Eye Institute. It was the influence of this great master, who soon became Burian's mentor, and the daily contact with such outstanding co-workers as Ames, Lancaster, Linksz, Boeder, Ogle, and Herzau that influenced Burian's scientific career. Upon Bielschowsky's death, Dr. Burian became his scientific heir, continued and greatly expanded his work, and became head of the Dartmouth Eye Institute. He left Dartmouth in 1945 and was in private practice in Boston until 1951 when he joined the faculty of the Department of Ophthalmology at the State University of Iowa as an associate professor. In 1956 he became professor and remained in this position until his retirement. It was at Iowa that Dr.

Burian spent the most productive period of his life, published more than 150 papers, attracted patients and students from all over the world, and made lasting contributions to the field of strabismus, electrophysiology, developmental anatomy, and congenital glaucoma. Together with Lee Allen, he pioneered the trabeculotomy ab externo, an operation now widely performed for congenital glaucoma. In 1971 he left Iowa as professor emeritus and found a new home in North Carolina where he was appointed professor at the University of North Carolina and clinical professor at Duke University. He presented many named lectures, among these the Proctor, Cavara, Gifford, Weeks, and Scobee Memorial Lectures. He received an honorable Doctor of Science degree from Colby College, was co-recipient of the Hectoen Gold Medal, and was on the editorial board of six scientific journals. He served for 22 years on the American Orthoptic Council where he did much to further the cause of American orthoptics. He was president of the International Strabismological Association and secretary and, later, vice-president of the International Society of Clinical Electroretinography. He held many other important positions in American and international ophthalmology. Upon his retirement from Iowa, Documenta Ophthalmologica published a *Festschrift* in his honor containing contributions from friends and former disciples from all over the world. Of the numerous national and international scientific organizations to which Dr. Burian belonged, were the American Ophthalmological Society and that small, intimate circle of devotees known as the "Squint Club." AJO 1975,79:335

Burke, John W. (1885-1959) American ophthalmologist. He was born in Alexandria, Virginia, and died in Washington, D.C. Burke did his premedical work at the University of Virginia and was graduated from the University of Virginia Medical School in 1906. He interned at the University of Virginia Hospital, the Episcopal Eye, Ear and Throat Hospital, and the New York Eye and Ear Infirmary. He then did postgraduate work in Vienna and London. In 1910, he returned to his country to private practice of ophthalmology as an associate of the William Holland→Wilmer. In 1917, he was commissioned a first lieutenant in the Medical Corps, United States Army, and served in France until he was released in 1919 as a Major. He returned to the United States on a Navy ship, as one of the personal physicians of President Woodrow Wilson. He was an associate professor of ophthalmology at Georgetown University Hospital and later professor. He was a member of the American Ophthalmological Society. He had been a member of the council and was president in 1947. He also was a member of the American Medical Association and of the District of Columbia Medical Society. He was not a prolific writer but his greatest contributions were in doing the *first* total corneal transplant and in pointing out that there could be progressive field loss in advanced glaucoma with controlled tension. AJO 1959,48:863

Bürki, Ernst (1909-?) Swiss professor of ophthalmology in Basle. Alfred Vogt Prize 1948. He wrote: "*Das Haftglas als opt. Instrument* " 1948. (The contact lens as an optical Instrument). About 40 articles mainly in *Ophthalmologica* (Basle) since 1940. Kürschners Gelehrten- Kalender 1966,p.305.

Burnett, James Compton. Nothing could be found about the author of "*Curability of cataract with medicines*". London 1880.

Burnett, Swan Moses (1847-1906) American ophthalmologist born at New Market, Jefferson County, Tennessee. Burnett received his medical education at the Miami Medical College in Cincinnati 1866-67 and at the Bellevue Medical College 1869-70 where he obtained his medical degree. >From 1870 to 1875 he was engaged in general practice in Knoxville, Tennessee. While a student at Bellevue he had paid especial attention to ophthalmology and otology, and, in 1875-76 he proceeded to Paris and London for the purpose of further study of these , his favorite, branches. Returning to America in 1876 , he settled in Washington, D.C., devoting himself entirely to ophthalmology and otology. In 1878 he became lecturer of ophthalmology at the school of medicine of Georgetown University. He held this position until 1883, the year he was offered a clinical professorship of the same subjects at the same school. In 1889 he was named professor for ophthalmology and otology at the same place and retained this position until his death. He was one of the attending staff [and president] of the Dispensary and Emergency Hospital. In this institution he founded and equipped the "Lionel Laboratory" in memory of one of

his sons. He also was ophthalmologist and otologist to the Children's and Providence Hospital and member of the consulting staff of the Episcopal Eye, Ear, and Throat Hospital. In 1889 he was elected president of the Medical Society of the District of Columbia, in 1890 he received the honorary degree of doctor of philosophy from the Georgetown University. He translated: E.→Landolt "*Manual of Examination of the Eyes*" and wrote: "*A course of Lectures Delivered at the Ecole Pratique*", Philadelphia 1879; "*A Theoretical and Practical Treatise on Astigmatism*", St Louis 1887; "*The Principles of Refraction in the Human Eye Based on the Laws of Conjugate Foci*" Philadelphia 1904; "*Study of Refraction from a New Viewpoint*" Philadelphia 1905. His contributions are to be found in *Archives of Ophthalmology and Otology* between 1876 and 1884, in *American Journal of Medical Sciences* 1884, *Transactions of the American Ophthalmological Society* 1888-93, *American Journal of Ophthalmology* 1896 and *Ophthalmic Record* 1899. *American Encyclopedia of Ophthalmology*, Vol.2,p.1342-1345

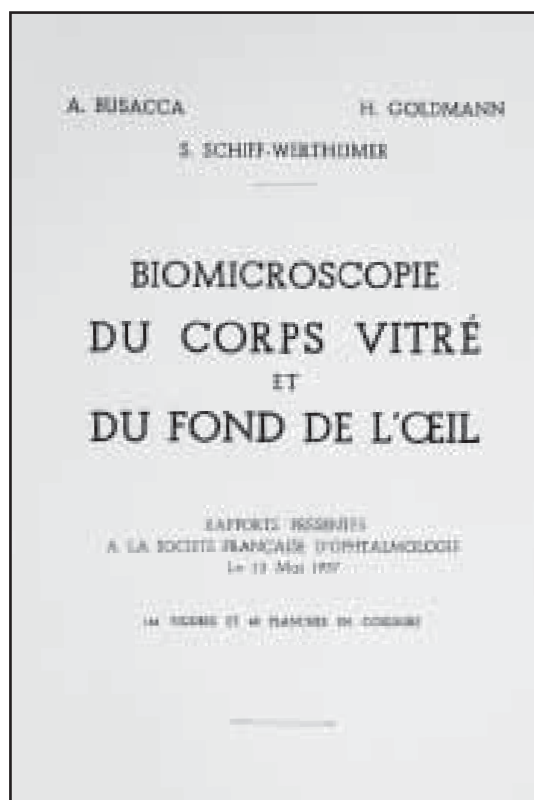
Burns, David Malcolm Joseph (1927-1994) British ophthalmologist. David Malcolm Joseph Burns was born on 2 November 1927 in Gosforth, Newcastle upon Tyne. His father, David, was Professor of Physiology at Durham University and his mother, Clarice Margaret Dugdale, was a biochemist. He attended Newcastle Grammar School and studied medicine at Trinity College, Cambridge, and Newcastle Medical School. For his National Service he served with the British Commonwealth Overseas Forces with the rank of captain and was mostly in Japan and Korea. He was involved in the treatment of victims of the atomic bomb attack on Hiroshima. He qualified in 1952, becoming house physician at the Royal Victoria Hospital, Newcastle. Specializing in ophthalmology, he trained at Moorfields and the Bristol Eye Hospital and was appointed senior registrar to the Oxford Eye Hospital. He was appointed consultant eye surgeon to St Paul's Hospital and Broadgreen Hospital, Liverpool, as well as lecturer in ophthalmology to Liverpool University. He received the Moorfields Prize in 1961 and became President of the North of England Ophthalmological Society in 1989. He was especially interested in diabetic retinopathy. Burns earned following titles: MRCS 1952; FRCS 1962; MB BCH Cantab 1952; MA 1955; LRCP 1952. *The Times* 10 April 1994; LFRCS

Burns, Robert P. (1923-1996) American ophthalmologist of Sonoma, California. Burns was born in Portland, Ore, grew up near a logging camp, and attended the University of Portland on a scholarship. He joined the Army during World War II and entered the wartime accelerated medical program, graduating in 1947 at the top of his class. He practiced general medicine in the seaside logging town of Waldport, Oregon, where his interest in the surgical repair of loggers' injuries led him to pursue ophthalmology after serving as a flight surgeon during the Korean War. Burns took his ophthalmology residency at Columbia University, New York, and later joined the faculty. In 1957, he joined the University of Oregon Medical School faculty and taught for more than 20 years. He served as Professor and Chairman of Ophthalmology at the University of Missouri-Columbia from 1979 until his retirement in 1991. Through his leadership, the Mason Eye Institute was built, providing new clinical and research facilities. Burns was an examiner for the American Board of Ophthalmology for more than a decade and served a term as its president. He was elected into several professional and research societies, including the American Ophthalmological Society, and published over 80 research articles. He was the *first* to isolate the cytomegalovirus from the eye in tissue culture in 1959. He did extensive research in ocular malignant melanoma in Sinclair swine. He was also involved with the pharmacology and pharmacodynamics of a variety of keratopathies and external diseases. The Mason Eye Institute established the Robert P. Burns, MD, and Lynette Feeney-Burns, PhD, endowment for Education and Research. *Arch Ophthalmol* 1996,114:779

Burow, Karl Heinrich August (1809-1874) German ophthalmologist of Königsberg. He devised a blepharoplasty procedure and an operation for entropion, among many other surgical innovations. Burow wrote: "*Beiträge zur Physiologie und Physik des menschlichen Auges.*" Berlin 1841; "*Ueber die Reihenfolge der Brillen-Brennweiten; eine Gratulationssehrift Carl Ernst von Baer*" Berlin 1864. Albert

Burr, William Simpson (1899-1957) Scottish ophthalmologist, born in Bo'ness, West Lothian. Burr studied medicine at Edinburgh University, whence he graduated M.B., Ch.B.

in 1921; in 1925 he obtained the D.O.M.S., and he was elected F.R.C.S. Ed. in 1927. During this period he held appointments at Bury Infirmary and Derbyshire Royal Infirmary, and latterly became senior house-surgeon at Moorfields Hospital. In 1927 he settled in Plymouth where he was honorary ophthalmic surgeon to the Royal Eye Infirmary. In 1954 he relinquished this post but continued as honorary consultant surgeon. BJO 1958,42:64



Busacca, Archimede (? – 1971) Brazilian ophthalmologist of San Paulo. He is the author of *Biomicroscopy and Histology of the Eye*, (3 vols.) and *Biomicroscopie du Corps Vitré et du Fond de l'Œil* (Paris 1957) with H.→Goldmann and S. Schiff-Wertheimer. In 1932 he described the nodule that bear his name which occur on the mesodermal surface of the iris in uveitis. AJO 1971,72:215. JPW

Busch, Johann Georg (1728-1800) German scientist, professor of mathematics at Hamburg, who wrote: "*Tractatus duo optici argumenti.*" Hamburg 1783. Albert

Businelli, Francesco (1828-1907) Italian ophthalmologist. Businelli first studied at Padua, then in Vienna where the powerful influence of E.→Jaeger and F.→Arlt directed his attention to ophthalmology. He became 1854 assistant to the Eye Clinic in Vienna. He returned to his country to become 1861 Professor of Ophthalmology at Sassari, and 1872 at Modena. American Encyclopedia of Ophthalmology, Vol.2,p.1347.

Butler, Thomas Harrison (1871-1945) British ophthalmologist. The son of a clergyman, he was born in 1871. His early education was received at Dorchester Grammar School and St. Paul's School. Proceeding to Corpus Christi College, Oxford, he obtained first class honours in Natural Sciences. His clinical course was taken at St.Bartholomew's Hospital and from there he qualified B.M. in 1895. After holding a number of resident hospital appointments, a Radcliffe Travelling Fellowship enabled him to widen his experience by study on the Continent for several years-during which time he worked at Paris, Berlin and Vienna and other centers. Later

he practised for several years in South Africa and on returning to his country he obtained the doctorate of medicine in 1902. For 4 years he was Assistant Surgeon to the British Ophthalmic Hospital at Jerusalem where he gained valuable experience in eye diseases which laid the foundation of his future career. On his return to England, he commenced practice as an ophthalmologist at Leamington and Coventry, and became Honorary Ophthalmic Surgeon to the Coventry and Warwickshire Hospital and to the Warneford Hospital, Leamington. In 1913 he was appointed a member of the honorary staff of the Birmingham and Midland Eye Hospital. Retiring from this position in 1932 he returned to assist the depleted staff when his son who was Assistant Surgeon to the Hospital was called to the Forces at the outbreak of war. He wrote much and was a frequent contributor to Medical Journals. An authority on the slit-lamp, his book (to which Ida Mann collaborated): "*An Illustrated Guide to the Slit-lamp.*"(Oxford 1927) was the *first* printed in English on this subject. All the illustrations in this book were from his own drawings. He was a familiar figure at most of the society meetings and during his long career he came to hold with distinction many high offices. At different times he was President of the Ophthalmological Society of the United Kingdom, of the Ophthalmic Section of the British Medical Association and of the Midland Ophthalmological Society. The last named society was especially indebted to him, for not only was he president for three years but was honorary secretary for nearly 30 years. For many years he was a member of the Council of the Oxford Ophthalmological Congress and contributed much to its success. He delivered the Doyne Memorial lecture and received the Doyne medal in 1924 and was Middlemore lecturer in 1915, 1922 and 1930. As evidence of his outstanding merit and of the esteem in which he was held by his colleagues, he was elected an Honorary Fellow of the Royal College of Surgeons in 1941-a rare but well deserved. BJO 1945,29:217-219; Lancet 1945,1:194; Brit med J. 1945,1:202

Butter, William (1726-1805) Scottish surgeon. He received his M.D. at the University of Edinburgh (1761) and practiced surgery in Derby and London. In ophthalmology he

wrote: "*An improved method of opening the temporal artery. Also, a new proposal for extracting the cataract*" London 1783. Albert

Buxton, Jorge N. (1921-1999) American corneal surgeon. Dr Buxton was born in Buenos Aires, Argentina. He graduated from Champagnat, St George's College, and the National University of Buenos Aires Medical School and completed his internship at Ramos Mejia Hospital. He emigrated to New York, NY, with his wife Amalia in 1947 and served an internship at St Clare's Hospital. He completed the basic science course in ophthalmology at New York University Medical School and took his residency in ophthalmology at Newark Eye and Ear Infirmary and New York Eye and Ear Infirmary. Buxton was an associate of Conrad→Berens, Britain F. Payne and Ramon→Castroviejo, from 1955 to 1957. He served in the US Air Force in Wiesbaden, Germany, attaining the rank of major. After his military services were completed, Buxton returned to New York, NY, and established his practice at the New York Eye and Ear Infirmary. In 1963, he was appointed surgeon-director and director of the corneal service. Later he became executive surgeon and chair of the medical board. During his career, Buxton served as clinical professor of ophthalmology at the University of Medicine and Dentistry of New Jersey, the State University of New York at Stony Brook, and the New York Medical College. He was a consultant in ophthalmology to numerous hospitals in New York, and to the US Food and Drug Administration. In addition, he was a director of eye banks in New York, New Jersey, Buenos Aires, and Tissue Banks International. Buxton received numerous awards, including the Honor and Senior Honor Awards from the American Academy of Ophthalmology, an award from the Order of St John, and a citation by the US Food and Drug Administration, as well as being named a distinguished alumnus of New York Eye and Ear Infirmary. He also gave several named lectures, including the Kevin Touhy Lecture (1975), the Arturo Grullon Memorial Lecture (1976), the Sylvio de Abreu Fialho Memorial Lecture (1978), and the 11th Conrad Berens Lecture (1979). Arch Ophthal 118,301,2000

Buxtorf, Johannes Swiss scientist, professor of Hebrew at the University of Basel. He wrote: "*De visu*" Basle 1728. A brief account of the structure of the eye and the mechanisms of vision. (Albert)

Buys, P. -J. (?- ?) Belgian physician who wrote "*De l'emploi de l'acétate de plomb solide dans le traitement de l'ophtalmie granuleuse*" Brussels 1849. Albert

Buzzi, Francesco (1751-1805) Italian ophthalmologist and surgeon of Milan, who worked at the Spedale Maggiori, and who was the first to describe the macula lutea of the human retina (1782) published in "*Opusc. scelti sulle science e sulle arti*", Milano 1782, 5, 94 and the first to create a new pupil by iridodialysis (1788). Hirsch, Albert

Byers, W.Gordon M. (1872-1957) Canadian ophthalmologist from Quebec, Canada. Byers was born in Gananoque, Ontario. He was graduated in medicine from McGill in 1894 with first class honors. During the next two years he interned in medicine and surgery at the Montreal General Hospital. Then he studied in Edinburgh, obtaining the L.C.P. and S. Following this, he served for 18 months as house surgeon at the Royal London Ophthalmic Hospital and later he studied for a year in Berlin, Paris, Vienna, and Utrecht. Byers was always an assiduous student. His enthusiasm carried him into many new fields in ophthalmology. As a result of his postgraduate studies and scientific contributions he earned a D.Sc. from McGill University in 1909. This degree was the highest scientific accolade at that university. On his return from Europe in 1898, he joined the staff of the Royal Victoria Hospital, Montreal, and a year later that of McGill in the Department of Ophthalmology. He became ophthalmologist-in-chief of the first in 1921, and professor and chairman of the department of the latter in 1923. On reaching the respective retirement ages at each institution, he forsook the appointment of the first in 1935 and the latter in 1937. He carried on private practice for a few years until 1946, when he retired. In the light of his character, training, and aims, it is not surprising that Dr. Byers took an active part in several ophthalmic societies. In 1920, he actively inspired the founding of the Montreal Ophthalmological Society. He was its first president. This society, embracing both the English- and French-speaking ophthalmologists of Montreal, has taken a very active part in the clinical life of the city ever since. Again in 1937, he was largely responsible for the founding of the Canadian Ophthalmological Society, which



since has developed into the most important clinical, scientific, and even political group of ophthalmologists in Canada, and he was its first president. Byers also was an active member of the American Ophthalmological Society from his election in 1906, and was its president in 1934. He was also a member of the Ophthalmological Society of the United Kingdom from 1897 on. AJO 1957,44:840-841;BJO 1958,42:193

Cabrol, Barthélemy (16th century) French Anatomist born at Jaillac, diocese of Albi, who studied and practiced in Montpellier. Cabrol's renown in ophthalmology is due to him establishing that the optic nerves do not arise from the anterior, but from the posterior, portion of the brain. American Encyclopedia of Ophthalmology, Vol.2,p.1350.

Cadiat, Oscar (1844-?) French physician who authored "*Du cristallin: anatomie et développement: usages et régénération*" Paris Baillière, 1876. Albert

Caffe, Paul Louis Balthazar (1803-1876) French ophthalmologist born at Chambéry, France. Caffe received his M.D. at Paris in 1833. He was a disciple of Sanson, and choose ophthalmology as his specialty; He wrote an important treatise on ophthalmia among Belgian, Dutch and Prussian soldiers and its treatment: "*Ophthalmie des armées*" Paris 1840. Albert

Cairns, John Edward (1925-1986) British ophthalmologist, studied at Durham University, was called up 1943 to join the Indian Army in which he remained until 1947 to enter the St.Bartholomews's Hospital Medical School. He took the anatomy prize in the second MB and after qualification was house officer on both professorial units. It was then that Henry →Stallard interested him in eye surgery, and after working with Stallard subsequently completed his eye training at Moorfields Eye Hospital, London. After a time he was appointed to Addenbrooke's Hospital, Cambridge in 1964. Cairns focusing on Glaucoma, published a two-volumes work on that theme in 1986-87. He also edited a book on the *Symposium on Glaucoma*-Transactions of the New Orleans Academy of Ophthalmology. St.Louis 1981.BJO 1986; 70:479.

Caldani, Leopoldo Marco Antonio (1725-1813) Italian anatomist and physiologist. In ophthalmology, he "*Intorno ai movimenti dell'iride dell'occhio*" Verona 1808. Albert

Calder, Francis William Grant.(?-?) British ophthalmologist who wrote "*Practical hints on the cure of squinting by operation.*" London 1841. Albert

Calderini, Giovanni (1841-1920) Italian physician mainly interested in ophthalmology, obstetrics and gynecology. He studied medicine in Turin, and from 1873 was professor of obstetrics and director of the obstetrical hospital at the University of Parma. In ophthalmology he wrote: "*Enucleazione del bulbo dell'occhio*" Torino 1866. Albert

Calhoun, Ferdinand Phinizy (1879-1965) American ophthalmologist. He was born in Atlanta, the son of Dr. Abner Welborn→Calhoun and Mary Louise Phinizy Calhoun, both members of pioneer Georgia families. Abner W. Calhoun was the pioneer ophthalmologist of this part of the country and was chairman of the Section on Ophthalmology of the AMA in 1882. The father of Dr. Abner W. Calhoun was a physician in Newnan, Georgia. After attending the public schools of Atlanta, F. Phinizy Calhoun was graduated from the University of Georgia in 1900. He attended Harvard for one year, and then entered the School of Medicine of Emory University (at that time the Atlanta College of Physicians and Surgeons), graduating in 1904. He interned at Grady Memorial Hospital in Atlanta, and did his residency training in ophthalmology at the New York Eye and Ear Infirmary and followed this with postgraduate study in Vienna. On his return to Atlanta, he was associated with his father in the practice of ophthalmology. On his father's death in 1910, he succeeded him as head of the Department of Ophthalmology at the Medical School and as chief of the *Ophthalmology Service* at Grady Hospital and Wesley Memorial Hospital (now Emory University Hospital). He was also well known for his contributions to education at both the University of Georgia and Emory University. He was a former president of the National Alumni Association of the University of Georgia. He served as