



Thirty-Eighth Annual Meeting
of the
American Osler Society

The Holiday Inn Beacon Hill
Boston, Massachusetts
Sunday to Wednesday, 4-7 May 2008

On the Cover

When he moved from Montreal and McGill University to Philadelphia and the University of Pennsylvania in 1885, William Osler was no doubt keenly aware of the rich, well-established medical tradition to the north in Boston. Shown clockwise from upper left are James Jackson (1773-1832), the most eminent Boston physician of his day; the great surgeon John Collins Warren (1778-1856), remembered for the immortal words “Gentlemen, this is no humbug” on October 17, 1846 when ether anesthesia was first administered in the Massachusetts General Hospital (upper right); Harvard president Charles William Eliot (1834-1926) whose sweeping educational reforms extending to medicine included a major expansion of the facilities at Harvard Medical School (lower right); Henry Ingersoll Bowditch (1808-1892), who was introduced in Paris to Pierre Charles Alexandre Louis by the exceptionally promising but ill-fated James Jackson, Jr., and who went on to write the first important American treatise on physical examination and to become the first American pulmonologist; and Boston City Hospital as it appeared during the late nineteenth century (note the European-inspired pavilion design centered around a domed building—an architectural predecessor to the Johns Hopkins Hospital, where Osler later made his mark).

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Some Overall Learning Objectives

1. *Medical Education.* Compare and contrast the evolution of medical education in Boston, Philadelphia, and Baltimore, and discuss how these early developments impacted on the eventual shape of teaching hospitals in the United States.
2. *Medical Practice.* List early developments in general medicine, general surgery, and psychiatry that impacted on the development of medical specialization in the United States.
3. *The Profession of Medicine.* List at least three developments in each of the following times and places that impacted on the professional identity of physicians: ancient Egypt, imperial Rome, the Eastern United States during the nineteenth century, and the frontier American West.
4. *Medical Ethics.* Trace the development of informed consent as we know it today; explain the difference between “ethics” and “etiquette” and elaborate on the latter; and name three elements crucial to human subjects research.
5. *Experimental Medicine.* Name and discuss at least one major concept as it evolved in each of the following areas: electrocardiography, atherosclerosis, immunization, and open heart surgery.
6. *Medical Institutions.* Explain the importance of the following institutions within the context of their historical development: The National Library of Medicine, The Rockefeller Institute for Medical Research; and the College of Physicians of Philadelphia.
7. *Public Health.* Discuss, drawing on historical examples, the physician’s role in each of the following areas of public health: mass casualties (as in the Halifax Disaster of 1917); tuberculosis; the water supply; and warfare.

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Sunday, 4 May 2008

3:00-5:00 pm Readings (FRANCIS A. NEELON, organizer)

5:45-6:45 pm Past Presidents Dinner

7:00-9:00 pm Board of Governors Meeting

Monday, 5 May 2008

General Session No. 1 (FRANCIS A. NEELON, presiding)

7:45 FRANCIS A. NEELON
Welcome and Announcements

Regional Medical History

8:00 HERBERT W. SWICK
“Silent Workers of the Ranks”: Oslerian Medicine in Early Montana

8:20 SANDRA W. MOSS
Serpentine Streams and Pulsating Power: The New Jersey Water-cure Doctors and Their Relation to the “Regulars”

8:40 CHRYSSA N. McALISTER, T. JOCK MURRAY, AND CHARLES E. MAXNER
The Halifax Disaster of 1917: The Oculist Experience

9:00 RICHARD J. KAHN
Madness & Mayhem in Maine: The Parkman-Portland Parley and a Mass. Murder (or Alliteration & Alienists)

9:20 ARTHUR GRYFE
Fluoridating Toronto’s Water: A Gordian Knot and a Pyrrhic Victory

9:40 *REFRESHMENT BREAK*

Ancient Medicine

10:10 LAAMY TIADJERI
Medicine in Ancient Egypt: In the Footsteps of Imhotep

10:30 JOSEPH W. LELLA
Galen Among the Ruins

10:50 MICHAEL E. MORAN
Celestial Harmony, Religious Acrimony, and Medical Redemption

The John P. McGovern Award Lectureship

11:10 CHARLES E. ROSENBERG
“Managed Fear: Contemplating Disease in an Age of Bureaucracy”

Noon *LUNCHEON*

General Session No. 2 (JOSEPH W. LELLA, presiding)

William B. Bean Student Research Award Lectureships

1:00 NEIL T. JENKINS
Inhalation Toxicology in the Bronze Age

1:20 PAUL J. KREZANOSKI
The Contemporary Medical History of Tuberculosis in Boston: A Window into
Modern Health Inequalities

John P. McGovern and UTMB's Osler Club

1:40 BRYANT BOUTWELL
Remembering John P. McGovern, M.D. (1921-2007)

2:00 JACK B. ALPERIN
The Osler Club at the University of Texas Medical Branch (UTMB): 2002 to
2007

Medical Education

2:20 ROBERT G. MENNEL
The Pennsylvania Hospital: A Pioneering American Medical Institution

2:40 *REFRESHMENT BREAK*

Culture and Controversy

3:10 JENNIFER R. HILL AND SAKTI DAS
Culture or Crime: The History of Female Genital Cutting

3:30 *LEAVE FOR THE ETHER DOME*

The Ether Dome: Boston Medicine Before the Osler Era

- 4:10 The Ether Dome: An Introduction
- 4:20 **JOHN NOBLE**
The Founders of Medical Education, Practice, and Research in Boston, 1780-1850: The Roles and Legacies of James Jackson and John Collins Warren
- 4:40 **CHARLES S. BRYAN**
“The Greatest Brahmin Among Them”—Osler’s Perspective on Oliver Wendell Holmes
- 5:00 *ADJOURN*
- 5:50 *BUSES BEGIN LEAVING FOR BOSTON HARBOR CRUISE*

Tuesday, 6 May 2008

General Session No. 3 (JOHN NOBLE, presiding)

Noted and Notable Physicians and Others

- 7:40 **ROBERT P. TURK**
A Prominent, Prosperous Physician Painted by a Promising Painter in 1632
- 8:00 **R. DENNIS BASTRON**
Charles Waterton (1782-1865) and his Quest for Curare
- 8:20 **T. JOCK MURRAY**
Healing Body and Soul: The Medical Career of the Reverend John Wesley
- 8:40 **LEONARD H. CALABRESE AND JAMES YOUNG**
George S. Crile—Surgeon, Scientist, Soldier—and his Relationships to Cushing and Osler
- 9:00 **CONRAD FULKERSON**
The Horse-and-Buggy Doctor: How Arthur Hertzler Bridged Generations as Story-Teller, Student, and Physician
- 9:20 **DARRYL D. BINDSCHADLER**
Canaries, Caissons, Carbon Dioxide and Monoxide: J.S. Haldane (1860-1936)
- 9:40 *REFRESHMENT BREAK*

- 10:10 PETER E. DANS
A. J. Cronin: A Neglected Physician/Author
- 10:30 ROBERT R. NESBIT, JR.
Charles Granville Rob, M.D.—A Surgeon of “The Greatest Generation”
- 10:50 ELLIOT TAPPER
Doctors on Display: The Evolution of Television’s Doctors
- Mini-Symposium: Leonard Wood, M.D.*
- 11:10 GORDON FRIERSON
Leonard Wood: Doctor, Soldier, and Pioneer of American Imperialism—The Early Years
- 11:25 DANIEL MORGAN
The Amazing and Astonishing Career of General Leonard Wood, M.D.—Reflections from a Twenty-first Century Perspective
- 11:40 PANEL DISCUSSION
Gordon Frierson, Daniel Morgan, and Michael Bliss
- 12:00 *LUNCHEON*
- General Session No. 4 (MICHAEL BLISS, presiding)
- Osler: Family, Friends, and Interests*
- 1:00 J. MARIO MOLINA
The Relationship Between Sir William Osler, Sir D’Arcy Power, and Harvey Cushing
- 1:20 CHARLES G. ROLAND
The Oslers and the Mallochs
- 1:40 CLAUD A. PIERACH
A Death in the Family: Osler—Cushing—Kollwitz
- 2:00 BILLY F. ANDREWS
Experiences with Cicely Williams, the Last Living Student of Sir William Osler
- 2:20 JOHN W. K. WARD
Shared Genius—Samuel Johnson and William Osler
- 2:40 *REFRESHMENT BREAK*

Osler: Organizer, Physician, and Teacher

- 3:10 MARVIN J. STONE
Harper, Gates, Osler, and Rockefeller: The Institute for Medical Research
- 3:30 STEPHEN B. GREENBERG
The National Library of Medicine: The Continuing Legacy of William Osler and John Shaw Billings
- 3:50 ARTHUR HOLLMAN
William Osler Organizes a Special Meeting in London in 1912 During a Visit by Willem Einthoven, the Inventor of the Electrocardiogram
- 4:10 MICHAEL O'ROURKE
A Common Mechanism for Dementia and Renal Failure in the Elderly—and for Pulmonary Hypertension in Adolescents with Left to Right Shunt?
- 4:30 JAMES O. BALLARD
Medical Education in Baltimore before William Osler: The Legacy of John Beale Davidge
- 4:50 *ADJOURN*
- 6:00 *BUSES BEGIN LEAVING FOR THE HARVARD CLUB*

Wednesday, 7 May 2008

- 7:30 *ANNUAL BUSINESS MEETING*
- General Session No. 5 (CHARLES S. BRYAN, presiding)
- Osleriana*
- 8:00 ROBERT I. LEVY
The Varying Faces of William Osler's Prescription Recommendations
- 8:20 JOSEPH B. VANDERVEER, JR., AND GEORGE M. WOHLREICH
The College of Physicians of Philadelphia, Osler, Chang, and Eng
- 8:40 CHARLES T. AMBROSE
Joseph H. Pratt, M.D., Part II: The Man Who Would be Osler
- 9:00 ABRAHAM FUKS, DONALD BOUDREAU, AND PAMELA MILLER
William Osler's *Principles and Practice of Medicine*: The Unwritten Chapter

- 9:20 MARGARET P. WARDLAW AND KATIE KUCERA
The Sacred Cord: Osler, Antivivisectionism, and the Ethics of Human
Subjects Research
- 9:40 *REFRESHMENT BREAK*
- Ethics, Efficacy, and Etiquette*
- 10:10 VIVIAN McALISTER
Dramatic Personalities: A Centenary Meta-Analysis of the Typhoid Vaccine
Controversy
- 10:30 THOMAS G. BENEDEK
From Bizarre Experiments to Informed Consent
- 10:50 ALLEN B. WEISSE
The UMDNJ Debacle: A Scandal in Medical Academia
- 11:10 BARRY D. SILVERMAN
Where Have Manners Gone?
- Techniques and Therapies*
- 11:30 DAVID K. C. COOPER
Six Minutes! Wilfred Bigelow, F. John Lewis, Henry Swan, and the First
Open Heart Surgery Using Hypothermia
- 11:50 JOHN D. BULLOCK
Ophthalmology and the History of Penicillin
- 12:10 C. JOAN RICHARDSON
Carl August Langenbuch and the First Cholecystectomy
- 12:30 *ADJOURN*

“Silent Workers of the Ranks”: Oslerian Medicine in Early Montana

HERBERT M. SWICK

Herbert Swick, an acknowledged authority on medical professionalism, is Research Professor in the College of Health Professions and Biomedical Sciences at The University of Montana and Clinical Associate Professor of Medicine at the University of Washington School of Medicine.

William Osler often spoke of the responsibilities of physicians. In “The Master Word in Medicine” (1903), for example, he said to medical students: “Yours is a higher and more sacred duty....To you the silent workers of the ranks, in villages and country districts, in the slums of our large cities, in the mining camps and factory towns, in the homes of the rich, and in the hovels of the poor, to you is given the harder task of illustrating with your lives the Hippocratic standards of Learning, of Sagacity, of Humanity and of Probity.” How did these lofty ideals translate into actual practice settings, in the hurly-burly of the day-to-day work of the physician, especially away from larger cities and towns?

Doctors William and Winifred Reynolds were among those “silent workers” who felt a “higher and more sacred duty.” The Reynolds arrived in the rough mining camp of Aldridge, Montana, as young newlyweds in 1901. They had been hired by the Montana Coal and Coke Company to provide medical care to the miners and their families, almost all of whom were recent immigrants. For the next 8 years, they met the challenges of medical practice in a difficult environment, amidst poverty, language barriers, and disparate social and cultural milieus. Sickness and injury were common. On one occasion, a young girl suffered a broken arm. When the Reynolds asked the mother to undress her, the mother complained, “But, Doctor, she’s sewed up for the winter.” They were confronted with six dresses and a layer of red flannel, into which the girl had been tightly sewn for the duration of the long winter.

Once the Reynolds traveled by horseback and rough wagon over 100 miles of rugged mountain terrain, in order to see a man who had suffered a severe cerebral hemorrhage. Doctors in nearer, surrounding towns, had refused to make the trip. Once, during a long strike at the mine, they visited a house where lived “a small waxen-faced baby of three months.” The mother was feeding her a thin gruel made out of potatoes, because that was all she had. Dr. Reynolds gave the mother a prescription for milk, instructing her to “take this up to Stewarts; she will give you a quart of milk a day until this awful strike is over.”

Both Winifred and William were much more than simply the camp doctors. They were integral to the community, earning the fierce loyalty and respect of the miners as well as the mine owners. Both clearly felt a compassionate desire to help the care-worn, impoverished families who were scrabbling out an existence on a rocky mountainside in Montana. They recognized the human dignity in each person. William Osler expressed the same idea when he reminded medical students: “Nothing will sustain you more potently than the power to recognize in your humdrum routine the true poetry of life—the poetry of the commonplace, of the ordinary man, of the plain, toil-worn woman, with their loves and their joys, their sorrows and their griefs.” Osler never visited Montana, but his ideals were realized, quietly and consciously, in the rugged mountains of western Montana a century ago.

Learning objectives:

1. Identify how Oslerian principles were exemplified in frontier practice.
2. Identify the important roles of physicians as integral members of their communities.
3. Discuss the clinical management of a fractured arm if the patient has been “sewed up for the winter.”

Serpentine Streams and Pulsating Power: The New Jersey Water-cure Doctors and Their Relation to the “Regulars”

SANDRA W. MOSS

Sandra Moss is a retired internist. Her research focuses on the history of medicine in 19th-century New Jersey. She is past president and current program chair of the Medical History Society of New Jersey.

In the 19th century, classically educated physicians—the “regulars”—pursued vigorous campaigns against medical sectarians—the “irregulars”—whom they denounced as quacks, “the scrofulous tubercles of the lungs [that] destroy the vitality of the whole system.” Faced with a bustling and competitive medical marketplace, the Medical Society of New Jersey positioned itself as the guardian of legitimate medical knowledge and practice. Water-cure doctors (hydropaths) and their successors (hygeiotherapists and naturopaths) were prime targets.

At a time when regular medicine had little to offer therapeutically, hydropathy and its successors promoted temperance, non-smoking, hygienic living, physical exercise, vegetarianism, sensible dress, and sex and childbirth education. Women, as the guardians of family health, found that hydropathy appealed to their intellectual and egalitarian sensibilities. Some regular physicians adopted hydropathy, owning and operating a number of water-cure establishments. Simon Baruch, M.D., of South Carolina and New York devoted his career to putting hydrotherapy on a scientific basis.

Some water-cure and naturopathic establishments were operated and advertised like magnificent resort hotels, often boasting a resident physician with European credentials. Others were more modest ventures. Hydropathic modalities included wet-sheet packings, sitz baths, wet bandages, and plunge baths. For the hardy, there was the “douche,” in which a forceful torrent of piped-in mountain spring water gushed onto the patient from above. In the 20th century, the “douche table” became the high-tech jewel in the crown of scientific hydrotherapy. This paper focuses on four unique New Jersey “water-cures” which operated from the mid-19th to early 20th centuries. I examine their European origins, immigrant clientele, flamboyant promoters, therapeutic modalities, teaching institutions, and popular appeal.

Despite mutual denunciations, the boundary between sectarian and regular medicine was blurred. Regular practitioners gradually adopted some of the practices and rhetoric of the hydropaths and naturopaths, although much of the impetus for change came from within medicine itself. While agreeing that wet packs and soaks had their place in therapy, the regulars insisted that such treatments were safe and effective only if prescribed by an experienced physician. Osler himself recommended cold baths and wet chest binders for tuberculosis. Prior to the mid-20th century, psychiatric institutions relied on baths, packs, and showers to calm agitated patients. Physical therapists continue to use these modalities.

The hydropaths and their successors left a mixed legacy. It’s difficult to argue with frequent bathing, sensible diet, regular exercise, comfortable dress, and a measure of personal responsibility for good health. The exaggerated rhetoric and shameless entrepreneurialism of New Jersey’s hydropaths and naturopaths echo today in the exaggerated claims for fuzzy concepts such as “organic” and “holistic.”

Learning Objectives:

1. Explain the interactions between regular physicians and hydropathic sectarians in the 19th century.
2. List some features of hydropathy which persist today in mainstream medicine.
3. Explain the appeal of hydropathic treatments to the public, particularly immigrant groups.

The Halifax Disaster of 1917: The Oculist Experience

CHRYSSA N. McALISTER, T. JOCK MURRAY, AND CHARLES E. MAXNER

Chryssa McAlister received her MD in June 2006 from Dalhousie University and is now training in ophthalmology at the University of Toronto. With a background in journalism and an interest in medical history, she has researched several topics including the Check-Off system of health care insurance in Canada, the evolution of obstetrics and the history of international maternal mortality, and the life of Paul Brand.

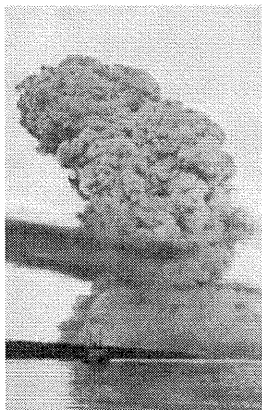
Despite its prominence in Canadian history, there are few publications on the Halifax Explosion of 1917 that address the care of victims with eye injuries. Archived documents relating to the nature and treatment of eye injuries sustained during the Halifax Explosion were reviewed at the Public Archives of Nova Scotia and the Maritime Museum of the Atlantic. A review of current literature was performed.

Detailed accounts regarding the personal and surgical experience of two ophthalmologists, GH Cox and FT Tooke, were found. Several unpublished government and personal documents on eye injuries sustained during the Halifax Explosion are filed at the Public Archives of Nova Scotia. Twelve ophthalmologists treated 592 people with eye injuries and performed 249 enucleations. Sixteen people had double enucleations. Most of the eye injuries were caused by shards of shattered glass. Sympathetic ophthalmia was the feared complication for penetrating eye injuries and a common indication for enucleation in 1917. A Blind Relief Fund was established to help treat, rehabilitate and compensate the visually impaired.

Like Sir William Osler, FT Tooke trained at McGill University, had a keen interest in pathology, and had a successful career in academic medicine. Tooke trained with renowned ophthalmologists in Europe including Marcus Gunn and Axonfeld and then returned to McGill University where he worked and taught in ophthalmology and pathology. He published broadly and is considered a pioneer in the establishment of ophthalmology in Canada.

Learning Objectives:

1. Describe the historical events of the Halifax Explosion.
2. List the nature and treatment of eye injuries sustained during the Halifax Explosion.
3. Outline the oculist experience in Canada in 1917.



On December 6, 1917, a French cargo ship (the *Mont-Blanc*) loaded with wartime explosives accidentally collided with a Norwegian ship in "The Narrows" section of the Halifax Harbour, resulting in what remains the world's largest man-made explosion apart from those using nuclear weapons. Some 2,000 people were killed (right) and more than 9,000 injured.

—CSB



Madness & Mayhem in Maine: The Parkman-Portland Parley and a Mass. Murder (or Alliteration & Alienists)

RICHARD J. KAHN

Richard Kahn has been a member of the American Osler Society since 1981 and served as president during 1998-1999. A Master and Laureate of the American College of Physicians, he practices in Rockport, Maine, and owns the largest collection of antique bedpans in the eastern United States.

Madness and insanity is the topic of Chapter One of Jeremiah Barker's unpublished manuscript, *Diseases of the District of Maine*, written between 1797-1820. The fifty-five page chapter was found separate from the other eight and was bound with several offprints on the care of the mentally ill written by Dr. George Parkman. With the "orphan chapter" is the following letter to Barker dated 25 November 1819:

Sir. If your History of diseases is to present anything on the subject of insanity, I should be gratified by the loan of that part of your M.S. which shall be returned without delay.

Respectfully

George Parkman

Dr. George Parkman, one of America's early alienists, had studied under Philippe Pinel & Etienne Esquirol in France in 1811. He returned to Boston and wrote on and advocated for the care of mentally ill people; his enthusiastic encouragement would in part bring about the establishment of the McLean Asylum in 1818. My title's "Mass. Murder" refers to Parkman's death at the hands of Harvard's professor of chemistry in 1849.

This paper will draw on Barker's unpublished manuscript, casebooks, letters, cited contemporary literature, and the Portland-Parkman link to explore the medical and moral treatment of the mentally ill in the District of Maine from the 1770s to the 1820s.

Learning Objectives:

1. What is an alienist?
2. Describe the moral and medical treatment of mental illness c 1800.
3. Who was Dr. George Parkman and what did he contribute to the care of the mentally ill?

Editorial Note: Dr. Kahn alludes to the Parkman-Webster murder trial, surely one of the most sensational happenings in the history of American medical education. On Friday, November 23, 1847, Dr. Parkman went to the Harvard Medical School building apparently to discuss a debt owed him by Dr. John White Webster, professor of chemistry at Harvard, whose lavish spending had resulted in substantial loans from Dr. Parkman and others. Parkman disappeared. Parkman's brother-in-law, Robert Gould Shaw, distributed handbills around Boston and Cambridge offering a \$3,000 reward for Parkman's discovery. The medical school's janitor, Ephraim Littlefield, had seen Parkman approaching the school building. Littlefield discovered a portion of Parkman's remains in the sewage holding tank. This led to what may have been the first murder trial using forensic pathology, the clincher being the discovery of Parkman's new false teeth in Webster's furnace. Webster, after his appeals had been exhausted, made a full confession. He had killed Parkman with his walking stick, dismembered the body, burned some of its parts, and left other parts to decompose in a tea chest and laboratory vault. —CSB

Fluoridating Toronto's Water: A Gordian Knot and a Pyrrhic Victory

ARTHUR GRYFE

Arthur Gryfe is a semi-retired pathologist in Toronto. He has been the Secretary of the Toronto Medical Historical Club for 28 years, and for several years served as the archivist of the Ontario Association of Pathologists. He is a member of the American Osler Society Board of Governors.

For more than 40 years the Health League of Canada was the most influential public health organization in Canada. Created in 1919 to combat the post-war venereal disease problem, it soon expanded its mandate to include a host of public health issues, including immunization, maternal and child care, pasteurization of milk, nutrition, food handling, cancer prevention, industrial health, artificial respiration, and aging. Largely due to the Health League's efforts, tertiary syphilis became virtually unknown in Canada, Ontario became Canada's first province to legislate pasteurization of milk, and Toronto became the first city in the world with a population of over 500,000 to go a whole year without a case of diphtheria. The Health League also led the successful campaign for fluoridation of Toronto's water supply, which proved to be a pyrrhic victory.

Dr. Gordon Bates, a small, feisty, aggressive physician, was the lifeblood of the Health League. He initiated the programmes and carried them to fruition. He was a public health crusader, a man of vision with boundless energy, but had no patience for opposing opinions. No one could stop him or the Health League until fluoridation of Toronto's water supply became his cause célèbre and Gordon Sinclair his chief antagonist.

Gordon Sinclair, Toronto's most visible and vocal anti-fluoridationist, was a very popular broadcaster and journalist. World traveler, author, provocateur, Sinclair thrived on controversy, bluntly stating his views on a wide variety of topics, and usually oversimplifying them to black and white issues. His huge following responded enthusiastically to his opinions, whether meritorious or outrageous. Through him, as a frequent host and commentator on Toronto radio and television, the anti-fluoridationists had massive exposure and an almost unfettered platform.

This paper describes the vitriolic fluoridation battle between the two men named Gordon. It also describes the participation of the United Appeal, forerunner of the United Way, in this battle, and how this resulted in the demise of the Health League of Canada.

Learning Objectives:

1. Describe the methods employed to disseminate propaganda favouring fluoridation.
2. Discuss the political implications involved in instituting a public health measure.
3. Discuss the power of a non-medical association over a public health organization.

Medicine in Ancient Egypt: In the Footsteps of Imhotep

LAAMY TIADJERI

Laamy Tiadjeri is a third year medical student at the University of Minnesota Medical School. She is currently in Granite Falls, Minnesota for nine months participating in the University of Minnesota Rural Physician Associate Program. She kindly acknowledges guidance and support from Dr. Laurel Drevlow and Dr. Claus Pierach.

As societies started to develop in the history of human life, members assumed different roles that allowed for the sound functioning of the whole group. Healers played a special role in societies, helping to restore people to health using the best of their abilities and resources available to them at the time. Africa, which is quite universally considered the birthplace of humankind, is also the source of several important medical documents dating back to ancient time: the Ebers, Edwin, and the Kahun Gynecological papyri. Furthermore, archeological and anthropologic exploration of ancient Egypt has revealed a profound depth of knowledge about human anatomy and level of sophistication of the medicine practiced by Egypt's physicians for the period.

In history, one famous physician stands out from ancient Egypt, and is referred to by Sir Osler as the "the first figure of a physician to stand out clearly from the mists of antiquity." This figure was Imhotep. Born a commoner, Imhotep lived during the Third Dynasty and would later become one of the best-known architects, doctors, and scribes in a multifaceted career. The Edwin Smith Papyri and the Ebers Papyri are two famous medical documents dating back to the days of ancient Egypt that contain chapters on several areas of medicine, anatomy and pharmacology. Though it is now thought to be unlikely, the former has been attributed to Imhotep. This presentation will explore the contributions of Egyptian medicine to our current understanding of anatomy and disease states through one of its greatest practitioners, Imhotep.

Learning Objectives:

1. What factors or contributions did Imhotep make that allowed him to stand out from the mists of antiquity?
2. Review, compare and contrast some of the medical documents of ancient Egypt.
3. How did the discoveries and practice of medicine in ancient Egypt affect the rest of the world then and today?

Galen Among the Ruins

JOSEPH W. LELLA

Joseph W. Lella is Professor Emeritus of Sociology, and Professor of History of Medicine, King's College and Faculty of Medicine, University of Western Ontario. He is past president of the Association for Behavioral Science in Medical Education and First Vice President, American Osler Society.

In his magisterial work *Ancient Medicine*, Vivian Nutton gives the following assessment of Galen's (129-217AD) place in the profession's history. "Galen ... is a pivotal figure ... the sheer power and prolixity of his writings impressed a Galenic stamp on subsequent medicine in Byzantium, the Middle East and the mediaeval West."

Galen's birth, early studies, and first steps as a physician took place in one of most advanced cities of the Greco-Roman world. Pergamon gave him access to cultured elites, and to Greek philosophic and medical traditions especially the Hippocratic. These, in turn, helped him build firm foundations for a life of medical learning, writing and practice that led to the court of Rome, heart of a vast empire. From there, his influence spread in time and space. This paper focuses on Galen's early life in Pergamon, in Western Anatolia close to the Aegean Sea. The rich archeological record is drawn upon using the my own photographs along with archeological diagrams to illustrate the Greco-Roman political, economic and cultural bases of Galen's, life, work, and influence. [In passing, the paper illustrates the intellectual profit and stimulation to be derived from medical-historical travel. In September and October 2007, I spent several weeks in Turkey among the ruins. An introductory reference list will be made available.]

Galen was a young man at perhaps the height of the Pax Romana in an imperial system founded by Octavian/Augustus, the first of the Roman god-Emperors (63BC-14AD). The symbolic unity of Greco-Roman medicine and religion is illustrated in a Pompeian wall painting from the first half of the first century AD. It depicts a scene from Virgil's epic Aeneid which celebrates the founder of Rome. The painting shows Aeneas being treated by a Greek surgeon Iarix, a votive of Paion and the pre-Asclepian Greek-become-Greco-Roman god of healing and under the watchful eye of Venus, the Greek Aphrodite mother of Aeneas, become Greco-Roman goddess. Thus, Rome (in its founder) is one with Greece in dependence upon the Greek arts and god of medicine.

Galen's father Nicon was a prosperous landowner/architect tied to local elites. He benefited from Pergamon's early second century 'building boom' generated by political/economic ties to Rome. Trajan's temple was built and the city's famous Asclepion expanded. Nicon made sure that his son received the liberal education expected of members of his circle. Pergamon's tradition of learning is evident in its gymnasium which of course promoted physical exercise but which also functioned as a school and university where invited speakers might fill its large lecture theatre. Evidence of the cult of the Roman Emperor is present in the gymnasium's 'college chapel.' One of the bases of the tradition honoring learning also can be seen in ruins of the famed library of Pergamon which in its day rivaled that of Alexandria. Nicon intended his wealth to help his son become a philosopher or politician: a member of the group of scholars and local notables who made use of Pergamon's Asclepion. This world famous center of healing, second only to that of Epidaurus, was expanding and may have featured in this architect's pointing his son towards medicine. Asclepios apparently appeared in a dream instructing Nicon to have his 16 year old son study medicine. This he did, at Pergamon. Three years later, his father's death left Galen the means to travel for further medical education. He profited from the Pax Romana's secure routes to Smyrna, Corinth, and Alexandria where his teachers were primarily Hippocratics.

Later, Galen returned home to practice medicine. People came to be healed at the Asclepion seeking the god's help, in its temple, waters, and incubation rooms. In the latter, visions or dreams were sought which were then interpreted by the shrine's priests. Galen was not a priest (although he may have assisted in the shrine as a youth) and did not invoke the god in his work. He depended more on medical writings and his own experience but did not discount the god's possible influence. It seems likely that he provided practical advice that complemented whatever went on in the Asclepion. In Pergamon, too, Galen was employed by the high priest to care for gladiators who "performed" at the local stadium for major festivals. Gladiators were expensive. Galen's job was to keep them alive and fit. Apparently he was highly successful and claimed to have lost only two gladiators in his first term of office compared to the 16 lost by his predecessor.

Five years after his return to Pergamon, Galen left to seek further fortune at the heart of the empire. Although he continued to travel more widely to exchange experience and pharmacological knowledge with fellow physicians, it seems that most of his remaining years were spent in Rome, where he continued to write the volumes that broadly propagated his influence. His medical skill and learning, his broad culture and political contacts gave him access as physician to Emperor Lucius Verus, to the family of Emperor Marcus Aurelius and others of the rich, famous and influential.

In sum, his early life and education as a cultured medical gentleman originating from a provincial medical center (in a vast and somewhat integrated empire) served him well as he moved to its heart, much as did Osler's at a later time, moving from a different province to the heart of a different empire.

Learning Objectives:

1. Outline the treatment available at Pergamon's Asclepion? Were religion and medicine at odds in Galen's practice there?
2. Compare the role of a liberal education in Galen's career to that in the lives of (some) modern physicians.
3. Describe in what ways Sir William Osler was a "modern Galen," and in what ways he was not.

Celestial Harmony, Religious Acrimony, and Medical Redemption

MICHAEL E. MORAN

Michael E. Moran is Chief of Urology at Medical Surgical Specialists in Naples, Florida. He has spent most of his career trying to develop methods of surgical intervention that minimize the trauma to his patients. He actively participates in teaching and research and currently is writing two books.

At the dawn of a new view of mankind and his alluvial position within the universe, there exists a profound medical legacy that begins to separate the science of astronomy, from the ancient superstitions of astrology. It is this astrologic legacy that in fact, ties this tale of several physicians to the origins of astronomy and astrophysics. It was the medieval notion that physicians were most often nothing more than astrologers as widely perceived in the writings of Philippus Theophrastus Aureolus Bombastus von Hohenheim, Paracelsus. Within the cradle of early modern science, 1543 is the annus mirabilis that is singular by the publication of two sentinel works, *De revolutionibus orbium coelestium libri sex* by the physician Nicolaus Copernicus and the *De humani corporis fabrica* by a fellow Paduan physician, Andreas Vesalius.

Both works were eventually to become the cornerstones of new sciences, Copernicus to astronomy and Vesalius to anatomy. Yet both physicians began a legacy of change in medicine itself that would lead in the 17th century to the final conflict between classic medical practice, the Paracelsian physicians (mystics) to the scientific foundations culminating with Harvey and the rise of scientific medicine. Copernicus was a devout Roman Catholic, but his disciple was an equally devout Protestant, Georg Joachim von Lauchen (Rheticus). He was a brilliant mathematician and encouraged his master to publish his observations. Despite otherwise intolerable acrimony between the two religions just prior to the 30 Years War, Rheticus and Copernicus became devoted to one another. Rheticus became a physician in turn, but aligned towards the astrological mysticism surrounding Paracelsus. Eventually he went so far as to visit with the virtuoso physician of his era, Girolamo Cardano who wrote the book on medical astrology. Finally, it would fall to the last physician of this ensemble, none other than Galileo Galilei who first took 3 years of medical school to formally debunk the astrologic overtones of human disease. In several of his writings, he was asked as a physician to read the astrologic health charts of his many famous patrons. With his first hand observations upon many astronomical firsts, it is no great leap of imagination to chuckle at the lunacy [pun intended] of those who thought that future events could be predicted by the ancient theory of star systems and planets aligning for physiologic reasons. With the publication of *Sidereus Nuncius*, in 1610, Galileo made more than the first astronomical observations with a telescope; he set the stage for the decline of centuries of mystical medical practices. The celestial physicians of the 16th and 17th century developed the epistemological means to cross fertilize medicine and astronomy eliminating any serious consideration of astrologic influences in health and disease. Astrology begets astronomy and anatomy begets physiology and pathophysiology. Medieval and Renaissance thought finally gave way to man's own ability to observe, experiment and think all fostered by stargazing, mathematically inclined group of physicians of varied beliefs and faiths, yet unbound by terrestrial dogma.

Learning Objectives:

1. Name three physicians who originated the modern heliocentric theory of the universe and how they relate to one another.
2. Describe the relationship of physicians and astrology during the 16th century.
3. Explain how the celestial physicians connecting Copernicus to Galileo contributed to medicine.

John P. McGovern Award Lectureship

Managed Fear: Contemplating Disease in an Age of Bureaucracy

CHARLES E. ROSENBERG

Charles E. Rosenberg, the Ernest Monrad Professor at Harvard's Department of the History of Science, is often considered the dean of living American historians of medicine. He has published a half-dozen books in the field and has co-authored or edited another dozen as well as advising more than fifty doctoral dissertations, the great majority at the University of Pennsylvania, where he taught for many years before arriving at Cambridge in 2000. Rosenberg has won both the Welch medal of the American Association for the History of Medicine and the George Sarton Medal from the History of Science Society and is a member of the IOM and the American Philosophical Society among other organizations.

When most men and women think about disease they think about chronic disease. And they think about it in specific terms – cancer, cardiovascular disease, adult onset diabetes; no one seems to die of old age anymore. (Epidemic infectious disease is something that may alarm – but most frequently as a kind of exotic spectacle that happens somewhere else and to other people.) But disease specificity is more than a way of thinking about etiology and pathogenesis. Diseases are social as well as conceptual entities. They are constituted by the agreed-upon content of evidence based medicine, by staging conventions and disease protocols, by treatment protocols and the results of consensus conferences. They are constituted as well by their manifestation on the internet and in the mass media, and – as social critics have increasingly argued – by the research and marketing decisions of pharmaceutical companies and the efforts of advocacy groups. While the sickness experience is unavoidably unique and ultimately personal it is necessarily shaped by such collective realities.

Our anxieties are marshaled and managed by such factors. As we contemplate our “risks” we monitor “good” and “bad” cholesterol, blood sugar, and other indicators of future health or disease. We are screened for an increasing variety of ills and we manage ourselves through drugs and diet as we seek to avoid being cast as protagonists in the variety of anxiety-provoking narratives that disease entities constitute today. It is this peculiar configuration of (an ever-changing) technology, bureaucracy, and economic motives that constitutes contemporary understanding and experience of disease.

Learning Objectives:

1. Evaluate the centrality of disease specificity in understanding the ways in which we (laypeople as well as physicians and pharmaceutical decision-makers) seek to avoid or manage chronic disease.
2. How does the unavoidable growth of technical capacity create a variety of symptom free “ailments” that increasingly shape the experience of individual women and men.
3. Discuss the role of bureaucratic needs and practices in shaping patterns of disease prevention and management.

William B. Bean Student Research Award Lectureship
Inhalation Toxicology in the Bronze Age

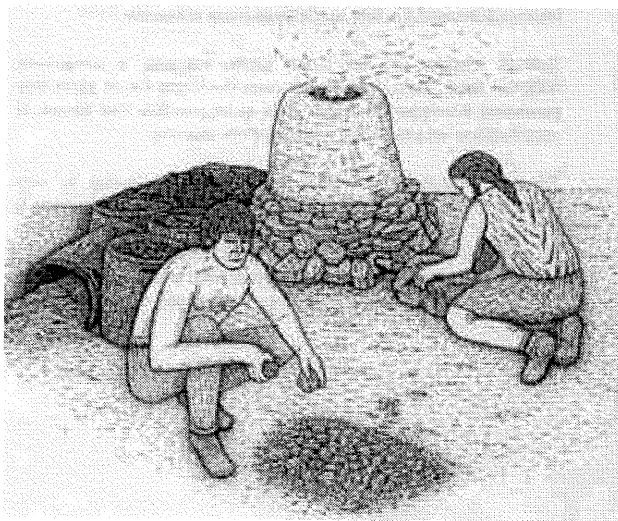
NEIL T. JENKINS

Neil Jenkins is the 2007 recipient of the William B. Bean Student Research Award. He is currently a MD/MPH student at the Ohio State University. He holds a PhD in materials science and engineering from Massachusetts Institute of Technology where he studied airborne particles formed from metallurgical processing.

Humans were exposed to hazardous levels of airborne toxicants in the Bronze Age. Ancient writers report the ill effects of certain smokes and vapors, modern-day evaluation of Bronze Age technologies predicts toxic byproducts, and examination of the archaeological remains of exposed victims confirms such predictions. Inhalants to which Bronze Age humans were exposed include smoke, as a fire byproduct, or purposefully from tobacco or opium, fumes formed from metallurgical processing, and possibly organic vapors. Humans were aware of the effects and dangers of toxicant inhalation and took actions to limit or increase exposure. These efforts propagated throughout the rest of the respective societies and created cultural change.

Learning Objectives:

1. List airborne toxicants found in the Bronze Age.
2. Compare pollutants from Bronze Age technologies with those from modern industries.
3. Discuss how ancient humans minimized risk to inhalation exposure.



Smelting during the Bronze Age

William B. Bean Student Research Award Lectureship
**The Contemporary Medical History of Tuberculosis in Boston:
 A Window into Modern Health Inequalities**

PAUL J. KREZANOSKI

Paul J. Krezanoski is a medical student from the Boston University School of Medicine. He is a certified project manager, former Peace Corps Volunteer and Founding Director of Opportunity Solutions International, a non-profit organization working to develop innovative solutions that offer the poor opportunities to lift themselves out of poverty (<http://www.opportunitiesolutions.org>). Support for this study has been provided by the American Osler Society's William B. Bean Student Research Award.

Tuberculosis infections have decreased significantly in the United States over the past 200 years. TB in Boston is no exception. But even as TB has abated, it retains an important stature in public health. This is because TB can be used as a heuristic for examining health inequalities in a world of increasing income gaps and accelerating globalization. This study uses the history of TB in Boston as a lens with which to examine trends in global health inequalities.

There are three aspects of modern TB that will be discussed. First, TB in the US has settled into refractory pockets of the medically underserved and immune deficient. This highlights disparities in health care access and social justice even in the world's most affluent country. Secondly, a majority of new TB cases in the US are from foreign-born patients, proving that epidemics abroad are more and more relevant to public health systems irrespective of national borders. This is even more the case with the appearance of drug resistant strains of TB. Finally, despite the fact that TB is eminently treatable, two million people die every year from TB worldwide.

This striking dichotomy between low TB rates in places like Boston and the raging epidemics in poor countries abroad exposes yet another layer of global health inequity. Overall, the contemporary history of TB in Boston can be used to precipitate a discussion about the intersection between social policy and human rights and how health inequalities manifest and perpetuate themselves. A deeper understanding of these dynamic processes will help us better deal with modern public health challenges by addressing the social determinants and implications of health outcomes.

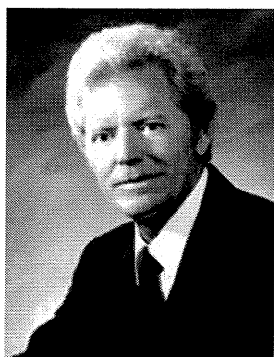
Learning Objectives:

1. List the groups most affected by TB in the United States and abroad.
2. Understand how globalization and income inequality determine and are determined by diseases like TB.
3. Explain how TB can be used as an instrument for analyses of global health inequalities.

Remembering John P. McGovern, M.D. (1921-2007)

BRYANT BOUTWELL

Bryant Boutwell is the John P. McGovern, M.D., Professor of Oslerian Medicine at The University of Texas Medical School at Houston. A colleague and personal friend of Dr. McGovern's, he delivered one of two eulogies at Dr. McGovern's memorial service held in Houston, Texas on June 7, 2007.



John P. McGovern (1921-2007)

The loss of John P. McGovern on May 31, 2007 was a loss felt around the world. He was an extraordinary physician/scientist who dedicated a lifetime to community service and helping others. He was a gentle soul who cared deeply about health care, education, and above all, the Oslerian traditions of treating the person, not just the disease. Given his founding role in the American Osler Society's history and love of all things Oslerian, this talk represents a timely and personal reflection regarding the author's mentor and friend. For over a decade the author was a privileged listener to this unique individual who has been described by many as a true Renaissance man. He lived a life that paralleled the many wonderful attributes of professionalism that Sir William Osler taught through example. This presentation will explore those parallels and provide an insider's look at Dr. McGovern that illustrates a unique and giving life. To understand the many dimensions of John P. McGovern is to understand the very spirit of scholarship, education, and mentorship that are to this day core attributes of the American Osler Society he helped launch.

Learning Objectives:

1. List at least four Osler attributes that defined the life and accomplishments of Dr. John P. McGovern.
2. Outline the chronology of Dr. McGovern's life that led him to a career in medicine with a lifelong appreciation of Sir William Osler's humanistic approach to life.
3. List at least five Osler-related contributions beyond his founding role in establishing the American Osler Society.
4. Examine the Davison/McGovern connection to Sir William Osler that shaped Dr. McGovern's professional life.

The Osler Club at the University of Texas Medical Branch (UTMB): 2002 to 2007

JACK B. ALPERIN

Jack B. Alperin is Professor of Internal Medicine, Pathology, and Biochemistry & Cell Biology, Consultant in Hematology and Transfusion Medicine, Associate Director of the Blood Bank Division, and Scholar in the John P. McGovern Academy of Oslerian Medicine, all at the University of Texas Medical Branch, Galveston, Texas.

Establishing an Osler Club became the first project of the Osler Scholars, just a few months after the John P. McGovern Academy of Oslerian Medicine was created in 2002. For a brief period in the 1950s, UTMB had had an Osler Club, but it soon faded away. The current Osler Club has enjoyed much greater success, having met continuously 31 times since the initial presentation of April 30, 2002, and additional meetings are scheduled for 2008. The Club is structured to stimulate throughout the campus an interest in Oslerian ideals of compassionate medical care based on solid science and an awareness of the value of the humanities in medicine.

The Osler Club at UTMB provides a forum for discussing the life and teachings of Sir William Osler, the history of medicine, the humanities in the practice of medicine, medical ethics, medical education, and related topics. The Club convenes 6 times a year in the even-numbered months. Initially, meetings were held in the Rosenberg House, but steadily increasing attendance soon necessitated moving to a larger venue. Since March 2003, all meetings have been held at the stately mansion, Open Gates. Both venues are Victorian homes built in the late 19th century; restored by UTMB, they are used for conferences and meetings.

The 31 Osler Club presentations to date may be classified as follows: history of medicine (13), the humanities in medicine (8), the life and teachings of Sir William Osler (5), medical ethics (3), and medical education (2). Faculty members in the School of Medicine have presented 25 programs. Presentations by the Osler Scholars are expected and account for 15 programs to date. Osler Student Scholars have presented 4 programs. Indeed, senior Student Scholars are expected to give a presentation before they graduate. Finally, 3 presentations have been made by faculty from other academic institutions. The Osler Club is also used as a venue to honor faculty and residents in training who are outstanding teachers or have made other contributions to UTMB.

A few of the topics discussed at meetings of the Osler Club include the attitudes of freshmen medical students toward human dissection, poetry and compassion in medicine, excellence in bedside teaching, homosexuality, Osler and autopsies, Osler as a hematologist, physicians and the pharmaceutical industry, brief histories of tuberculosis and syphilis, Osler and feminism, phlebotomy therapy, and Franklin Roosevelt's paralytic illness (was it really polio?). A complete list of the presentations and the names of the presenters will be made available when this paper is presented at the 2008 annual meeting of the AOS in Boston.

Attendance at the Osler Club is extended to everyone in the UTMB and Galveston communities. After each presentation, time is set aside for questions and answers. Discussions often continue during the light buffet supper served after the formal presentation. Attendance at the program and buffet supper is free, although reservations are requested. Approximately 50 people attend these meetings. Physicians attending may earn 1 hour of ethics CME or 1 hour of general CME approved by the Accreditation Council for Continuing Medical Education. The Bow Tie Social Club, a student organized history of medicine group, is a spin off from the Osler Club. All attendees (men and women) must wear a bow tie.

Learning Objectives:

1. Discuss the purpose of the Osler Club.
2. Describe the format of the Osler Club meetings.
3. List the main categories of topics presented.
4. Describe the Bow Tie Social Club.

The Pennsylvania Hospital: A Pioneering American Medical Institution

ROBERT G. MENNEL

Robert Mennel is a practicing medical oncologist at Baylor University Medical Center in Dallas, Texas. His medical history interests have centered on the history of internal medicine and oncology and the history of the medical institutions in the cities he has trained.

Philadelphia in the mid 18th century was very progressive for a city in an English Colony. This city was wealthy, socially progressive, and governmentally astute. Philadelphia had a strong Quaker background and had a conscience about the care of the poor and sick. In 1750, wealthy citizens of Philadelphia obtained their medical care at home and students who could not afford to train in Europe obtained their medical education in an outpatient apprentice program. There was no hospital to care for the ill poor and to train physicians.

In 1751, Dr. Thomas Bond convinced Benjamin Franklin that a hospital was needed to care for Philadelphia's sick- poor and insane. The first hospital in the American colonies was born May 11, 1751, and has been in continual operation since its beginning. The Pennsylvania Hospital's history has intimately been intertwined with our national and medical history. The Pennsylvania Hospital has been an important force in patient care, medical education, medical research, and hospital administration. The Pennsylvania Hospital has also had some giants of American medicine on its staff and some very colorful characters in its employment. Benjamin Rush, Philip Syng Physick, Thomas Bond, John Morgan, William Shippen Jr., Casper Wistar, Hayes Agnew, and Charles Meigs are only a few of the Pennsylvania Hospital's medical staff. Right from the Pennsylvania Hospital's inception progressive Boards of Managers have guided the course of the hospital and have instituted such innovative programs as an ambulance service, Occupational Therapy, standards for staff membership, and a nursing school for both women and men. The hospital through its Board of Managers was the first institution to employ female nurses on male wards. Medical Education has always been a major focus. It had one of the first if not the first medical library in a hospital. This was started with a gift from John Fothergill MD of London. The Hospital charged physicians in training a stipend to maintain the library and also established medical lectures even before the founding of the first medical school. The hospital maintained a pathology museum for medical education.

The Pennsylvania Hospital has always had care of the sick as its major goal. This hospital was the first to consider itself as a hospital for the care of the mentally ill and not an institution for the incarceration of the mentally ill. Physicians from the Pennsylvania Hospital distinguished typhoid from typhus, described hemophilia as an inherited disease, and described many new surgical techniques, to name only a few of their accomplishments. Pennsylvania Hospital has had a rich history and will have an interesting future.

Learning Objectives:

1. Describe the forces operating in Philadelphia and the colonies which led to the establishment of the Pennsylvania Hospital as the first hospital in the colonies.
2. Enumerate the accomplishments of the Pennsylvania Hospital's medical staff and administrative staff.
3. Outline the importance of the Pennsylvania Hospital to the development of Philadelphia medicine and American medicine.

Culture or Crime? The History of Female Genital Cutting

JENNIFER R. HILL AND SAKTI DAS

Jennifer Hill is a resident in urology (URO-3) at Lenox Hill Hospital in New York City. She has cultivated an interest in medical and surgical history beginning long before entering the medical profession. She has presented papers in the History Forum of the American Urological Association and continues her interest in that field. Sakti Das is the historian of the American Urological Association and an active member of the American Osler Society.

The purpose of this presentation is to elucidate the causal history and progression of Female Genital Cutting (FGC) from ancient times to the current modern practice seen in many countries throughout the world.

Ritual cutting and alteration of the genitalia of female infants and adolescents has been a tradition since antiquity. The origin of FGC is unknown, and there is no conclusive evidence to indicate how the tradition was started, or how it spread. Female circumcision was practiced by the Egyptians during the reign of the pharaohs (2850-525 B.C.). In ancient Egypt, FGC was a sign of distinction and beauty practiced mainly by the royal family and priestly castes. Archaeologists have seen clitoridectomy in many Egyptian mummies which attests to the practice of FGC in ancient Egypt. Whether FGC was started in ancient Egypt is not known, but it is believed to have been an intricate part of their social structure. Herodotus (484-424 BC) records that FGC was performed by the Phoenicians, Hittites, Ethiopians, as well as the Egyptians. This is the oldest known source discussing the practice.

FGC has been practiced in Western society for a variety of medical conditions thought to inherently strike women. In the 19th century clitoridectomy was practiced in Europe and America as a cure for excessive masturbation and for mental illness such as "hysteria." This practice continued well into the 20th century. Today, FGC is practiced mostly in African nations, and a small subset of countries in Asia. The women of these societies have been subjugated to accept FGC as a part of their cultural identity. Recent ground swells of protests leading to legal abolition of FGC in many countries and societies is a welcome step towards elimination of this barbaric practice.

CONCLUSIONS

FGC is a subject that has been buried in secrecy and taboo for centuries. Recently, the subject has been brought to light by health practitioners and social scientists. FGC is a subject that needs understanding if we are to treat our patients' medical complications from this procedure with knowledge and respect. As physicians it is also our duty to educate the community about the irrationality and harms of FGC, so that this practice can be stopped.

Learning Objectives:

1. Trace the indoctrination of FGC in the African culture and its proposed rationale.
2. Learn about varieties of FGC and the complications thereof.
3. List three of the many obstacles to halting the practice of FGC.

The Founders of Medical Education, Practice, and Research in Boston, 1780-1850: The Roles and Legacies of James Jackson and John Collins Warren

JOHN NOBLE

John Noble is Professor of Medicine at Boston University School of Medicine. A leader in the primary care movement, he is a Master of the American College of Physician and is second vice-president of the American Osler Society.

Medical education and clinical practice were developed rapidly in Boston by three generations of physicians commencing in 1780. Review of their accomplishments and problems which they encountered reveals challenges which have confronted subsequent generations of physicians. John Warren, Benjamin Waterhouse and Aaron Dexter were appointed to teach classes in Anatomy and surgery at Harvard College in 1782-1783. They were joined by James Thacher who had served under John Warren at the start of the Revolutionary War and rose to Surgeon over seven years and then returned to practice in Hingham and teaching at Harvard. Together, these physicians were the founders and first faculty of the Harvard Medical School.

Two of their graduates, John Collins Warren, the son of John Warren, and James Jackson studied in England, Scotland and France between 1797 and 1802. On their return and after further training, they were given senior leadership roles in medicine and surgery at the Harvard Medical School. Over the next 34 years they transformed medical teaching, practice and organization by leading and participating in the following activities.

- *Relocation of the medical school from Cambridge to Boston
- *Building of the Massachusetts General Hospital
- *Establishment of the Massachusetts Medical Society
- *Founding of the New England Journal of Medicine

James Jackson served as the Chairman of the Department of Medicine and published 15 papers in the *NEJM* and a book, "Letters to a Young Physician on Entering Practice".

John Collins Warren served as the Chairman of the Department of Surgery. He was a very accomplished surgeon, who presided over the first demonstration of ether.

The sons of both Jackson and Warren chose medicine and surgery as their fields of endeavor. John Mason Warren (1811-1867) studied in Europe after graduation from HMS and returned to Boston to practice in plastic and reconstructive surgery.

James Jackson Jr. (1810-1834) studied pathophysiology under Pierre C.A. Louis, in which he correlated the clinical history, physical findings with the pathologic findings at autopsy. Inspired by both Laennec who had died in 1827 and Louis, he sent detailed descriptions of his observations to his father. Shortly after returning home, he died at the age of 24 in the typhus outbreak in Boston of 1834.

Learning Objectives:

1. Describe the similarities and differences in the early development of the Pennsylvania Hospital (the first US hospital) and the MGH.
2. Correlate stethoscopic findings with findings at autopsy described by James Jackson Jr.
3. Discuss the importance of mentoring described by Pierre Louis.
4. Explain the impact of the personal loss of their sons on James Jackson, and in later years on William Osler, and to the friends of Francis Weld Peabody.

“The Greatest Brahmin Among Them”— Osler’s Perspective on Oliver Wendell Holmes

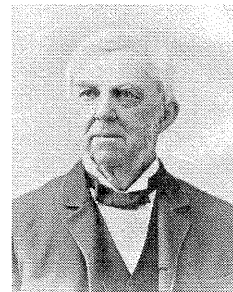
CHARLES S. BRYAN

Charles S. Bryan is Heyward Gibbes Distinguished Professor of Internal Medicine and Director of the Center for Bioethics and Medical Humanities at the University of South Carolina.

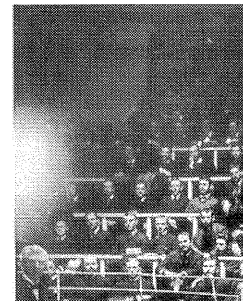
In his 1897 address on “British Medicine in Greatest Britain,” William Osler called Oliver Wendell Holmes “the greatest Brahmin among them” in a group that included the nineteenth century medical luminaries of Canada, Boston, New York City, and Philadelphia—a fitting tribute, since it was Holmes who coined the term “Boston Brahmin” (Holmes also nicknamed Boston the “Hub”). Osler likewise called Holmes “the most successful combination the world has ever seen, of physician and man of letters.” To many nineteenth century Americans, Holmes was not only the most famous American physician but also their favorite author. We can easily recognize how Holmes, whose Breakfast Table Series Osler recommended to medical students for “a philosophy of life peculiarly suited to the needs of a physician,” served Osler as an important role model in more than one respect.

After graduating from Harvard College, Holmes studied medicine at the École de Médecine in Paris and then in Parisian hospitals at institutions such as La Charité and La Pitié Salpêtrière. Especially from Pierre Charles Alexandre Louis, Holmes became steeped in skepticism, making him an early and vocal proponent of what came to be called therapeutic nihilism. His 1843 publication on *The Contagiousness of Puerperal Fever* preceded by three years the better known work of Ignaz Semmelweis. Holmes coined the term “anesthesia” and helped popularize the practice. And it was Holmes who introduced the microscope to American medical education (as Osler would later do at McGill University). Holmes became at Harvard a legendary teacher of anatomy for whom, as a student said, “Every muscle, bone, or organ suggests some witty story.”

To the general public Holmes was best known as the author of the breakfast-table series: *The Autocrat at the Breakfast-Table* (1857), *The Professor at the Breakfast-Table* (1859), and *The Poet at the Breakfast-Table* (1872). These articles first appeared in *The Atlantic* (a periodical thus named by Holmes). Holmes sought to make the fictional residents of a boarding house the representatives of a national conversation (and one for which there is today virtually no counterpart except for Garry Trudeau’s comic strip, “Doonsbury”). Henry James, Sr., called Holmes “intellectually the most alive man I ever knew.” Holmes has been called “one of the last true generalists,” and a man who crusaded “all his life against an encroaching specialization among lawyers, clergymen, scientists, and doctors.” Yet Holmes advanced a number of specialties—he was among the first, for instance, to appreciate the new psychology. “When tired of anatomy,” Osler told students, “refresh your mind with Oliver Wendell Holmes.” That most people now associate the name “Oliver Wendell Holmes” with the jurist rather than the physician-author is in some ways symptomatic of larger trends in American attitudes and thought.



*Oliver Wendell
Holmes, Sr.
(1809-1884)*



*On November 25,
1882, Holmes (far
left) gave his fare-
well address to stu-
dents at Harvard
Medical School.*

Learning Objectives:

1. List at least three contributions of Oliver Wendell Holmes to medicine and also to literature.
2. Describe how Holmes served Osler as a role model in medical education, therapeutics, and serious essays.
3. Suggest why the name “Oliver Wendell Holmes” is, for most people today, associated with the jurist, not the physician.

A Prominent, Prosperous Physician Painted by a Promising Painter in 1632

ROBERT P. TURK

Robert P. Turk graduated from the Medical College of Alabama and did a General Surgery residency in Denver. He retired from the Air Force with 24 years of service including bases in France, Spain, Vietnam and the Philippines and for the following 20 years was a Clinical Professor in Wright State University's Integrated Program in General Surgery. For the past 7 years he has been the Surgery Clerkship Director.

The first painting executed by Rembrandt on his arrival in Amsterdam in 1632 was commissioned by the Surgeon's Guild and is entitled "The Anatomy Lesson of Dr Tulp" after the central figure in the painting. Rembrandt's reputation was thereby established and he is known through out the world whereas Dr Tulp, a prominent figure in his day, is little remembered. The subject of the painting was born in Amsterdam in 1593, the 4th child of a prosperous merchant, and was named Nicolaus Pieter. This was the golden age of the Dutch Republic and the season of tulip mania when rare tulip bulbs sold for the price of a house. Sometime before his 38th birthday he changed his name to Nicolaas Tulp and the tulip became his symbol. In 1611 Tulp attended medical school in Leiden. He returned to Amsterdam to set up a medical/surgical practice and married in 1617. Because of his interests, capabilities and wealth he became involved in the affairs of his city and country. In 1628, he was designated Praelector of Anatomy of the Surgeons Guild, a post he held for 24 years. Dissections were held in mid-winter and were mandatory for guild members who paid an entrance fee. The dissection in the painting took place on 16 Jan 1631 on a perpetrator of armed robbery by the name of Adriaan Adriaans, a 23 year old ne'er-do-well. The painting has a number of interesting aspects including the fact that Tulp is demonstrating the flexor digitorum sublimis of the left arm (as did Vesalius in his book); although the abdomen was usually dissected first.

As a result of the plague in 1635, Tulp suggested the apothecaries be under the supervision of the city doctors and the first Dutch pharmacopoeia was established. Tulp wrote only one book: *Medical Observations*. The book was written in 1637 as a practical guide for his son Pieter who had just graduated from Leiden. It contained 228 observations, including the first description of the ileo-cecal valve, a case of hyper-lipidemia and the human qualities of the orang-utang. His son died prematurely shortly after the first edition, but the book was republished 4 more times through 1716. Between 1645-72, Dr Tulp was 4 times the mayor of Amsterdam and 8 times city treasurer. He was married twice with 5 children from his first marriage and 3 from his second. He was a doting grandfather to his 20 grandchildren. He died on city business at the Hague at age 81 during the difficult period when Louis XIV declared war on Holland. Rembrandt remains a subject of study and Dr Tulp remains buried in the Cathedral of Amsterdam.

Learning Objectives:

1. Describe the contributions to medicine credited to Dr Tulp.
2. Compare and contrast Rembrandt's paintings of human dissection.
3. Discuss the reasons for the rise of portraiture in the Post-Reformation era.

Charles Waterton (1782-1865) and his Quest for Curare

R. DENNIS BASTRON

Dennis Bastron, a former student of the great Oslerian William B. Bean, is Professor of Clinical Anesthesiology at the University of Arizona.

Who was Charles Waterton and how did he contribute to the development of curare for use in anesthesiology?

Charles Waterton, a devout Catholic, was perhaps the eccentric in a century of English eccentrics. Shortly after completing his Jesuit education, he and a classmate traveled to Rome, scaled St. Peter's Basilica, and left their gloves atop the 13-foot conductor. Pius VII was not amused and the culprits were sent to retrieve their gloves. Waterton spent several years managing family estates in British Guiana. His escapades there included hooking and riding a cayman, and capturing a 10-foot boa by grabbing its tail and knocking it out with a Yorkshire punch on the jaw. In late 1812 Waterton began a four-month journey, much of it barefooted, deep into the jungles to learn the secrets of the arrow poison wourali (better-known as curare). He learned about the production and use of wourali from the Macusi tribe. Obtaining a good specimen, he experimented with the poison, described the dose-weight relationship, and dispelled rumors about antidotes. A student of nature from childhood, Waterton contributed as a naturalist, taxidermist, conservationist, and collector.

In 1814, Waterton provided samples of wourali for experiments carried out with Mr. Seward, of the London Veterinary College, and the famous surgeon Benjamin Brodie. Wourali was injected into an ass, which died 12 minutes later. Wourali was injected into the leg of another ass which had a tight ligature placed above the injection site. The ass walked around for an hour until the ligature was released. The animal died ten minutes later. Finally, wourali was injected into the shoulder of a she-ass (later named Wouralia) and apparent death occurred in ten minutes. A tracheotomy was performed and the lungs inflated regularly for two hours when suspended animation returned. Apparent death returned upon stopping lung inflation. After two more hours of lung inflations, the animal began to breathe and lived a peaceful retirement from science at Waterton's estate, dying 25 years later. Waterton wanted to try the poison for the treatment of rabies and tetanus, but never had the opportunity.

Dr. Osler was most likely aware of various studies of curare. He had a copy of Waterton's "Essays on Natural History," and his friend and mentor, Silas Weir Mitchell, had been influenced by Claude Bernard, who had described the site of action of curare. Moreover, Mitchell and Waterton both were interested in the actions of snake venom.

Nearly 130 years after the famous Brodie experiments, curare was introduced to anesthetic practice, beginning the modern era of "balanced anesthesia," providing good muscle relaxation with lower doses of anesthetic, allowing surgeons to perform more complex procedures for much sicker and older patients.

Learning objectives:

1. List three of Waterton's contributions as a naturalist.
2. Describe the Brodie experiments with curare.
3. Explain the importance of the introduction of curare into the practice of anesthesia and surgery.

Healing Body and Soul: The Medical Career of the Reverend John Wesley

T. JOCK MURRAY

Jock Murray is Professor Emeritus and former Dean of Medicine at Dalhousie University. He is Chair Emeritus of the American College of Physicians and former President of the American Osler Society. His historical interests are 18th century medicine, Samuel Johnson and his circle, and the history of neurology.

Rev. John Wesley, cleric, founder of Methodism, had a life long interest in medicine. Excluded from preaching in the churches, he and his followers preached outdoors and organized regular visitations to the poor, the imprisoned and the sick, where he saw their medical as well as their spiritual needs. He concluded that physicians were of little help as they were of a different social class, and their complex and expensive remedies were cloaked in confusing theories and language, so he would treat them himself. The 16 volumes of his journal and letters reveal his interest in medicine. He continually read medical works and made a particular study of medicine prior to his brief and unhappy sojourn in America, as he thought he could help treat the inhabitants there. He established free medical dispensaries in Bristol, London and Newcastle, perhaps the first free clinics in England, where he would personally see about 100 patients a week, administering advice and medicine of his own prescription. He was one of the first proponents of the therapeutic benefits of electricity and set up electrical therapy.

Wesley believed in simple direct treatments, and published a collection in *Primitive Physick: or an Easy and Natural Method of Treating Most Diseases*. He annotated each remedy to indicate if he had tried it, if it was infallible and which was best. He later wrote *Desideratum: or Electricity made Plain and Simple* to show the various benefits of this new therapy.

It is surprising that it was decades before the profession responded to his criticisms outlined in his Preface to *Primitive Physick*. Dr. William Dawes wrote a critique of Wesley, ridiculing his remedies as quackery and even harmful, and attacked the country preacher for intruding into their art. Dawes also lamely addressed Wesley's criticisms of physicians, but by this time *Primitive Physick* had gone into many printings and was the most popular self-help book in the 18th century.

A life long student of wide interests, from the principles of Newton, the medical views of Cheyne and Tissot, to concepts of public health, Wesley tried to incorporate these secular views into his concepts of theology. Some called him an incompetent and even dangerous dilettante and meddler in medicine, but others regarded him as a great healer, a pioneer in public health and public education, who should be accorded the title of physician. Although critics focus on the quaint nature of his remedies, Wesley's comments on the social responsibilities of medicine remain challenging issues for the profession.

Learning Objectives:

1. Explain why a cleric felt it was appropriate to care for the health of his flock.
2. Explain why physicians were felt to be neglecting the needs of the poor.
3. Discuss whether the criticisms of physicians in the 18th century remain as current challenges.

George S. Crile—Surgeon, Scientist, Soldier— and his Relationships to Cushing and Osler

LEONARD H. CALABRESE AND JAMES YOUNG

Leonard H. Calabrese is a Professor of Medicine in the Cleveland Clinic Lerner College of Medicine where he heads the curricular track on Human Values in Health Care. He holds the R. J. Fasnmyer Chair of Clinical Immunology specializing in the areas of immunodeficiency and vasculitis. James Young is the Chairman of the Division of Medicine at the Cleveland Clinic Foundation and Professor of Medicine at the Cleveland Clinic Lerner College of Medicine.

George S. Crile (1864-1943) achieved distinction in the history of surgery in the United States for numerous accomplishments including his roles as: (1) a pioneer surgeon physiologist who investigated the causes of shock, control of blood pressure and the investigation of other disorders; (2) a founder of the American College of Surgeons, a latter president and chair of its Board of regents for 36 years; (3) an accomplished author publishing over 400 articles and 24 books; (4) a central figure in the development of the American military capabilities in World War I; and (5) one of the 4 founders of the Cleveland Clinic Foundation.

Crile and Cushing both hailed from Northeastern Ohio and became lifelong professional colleagues and personal friends. Though it is not documented when they first met, a shared scientific interest in blood pressure and its monitoring brought them together in Cleveland late in 1901 when Cushing gave Crile a replica of the Riva-Rocca blood pressure apparatus. In Boston in 1903, upon an invitation of W. T. Councilman, Crile and Cushing presented their work on shock and blood pressure monitoring to the combined societies of medicine in the city. They latter worked closely together in the efforts to prepare the United States military medicine capabilities for World War I. In the years following the war they remained close colleagues through their professional organizations and their friendship. In 1929, 8 years after the founding of the Cleveland Clinic, a tragic fire nearly ended its history causing the death of 123 people including many clinic doctors and nurses. Cushing raced immediately to Cleveland to support his friend at his time of need. Despite their closeness they had strong contrasts as well with Cushing a forth generation physician with Ivy League training and credentials where as Crile was a self made man and the product of a two year rural medical school. They also competed for the position of clinical professor of surgery at Lakeside hospital in Cleveland with Crile winning the post.

Crile was well acquainted with Osler and had great respect for him. Though they did not share a similar friendship to that of Crile and Cushing there is evidence that they met and corresponded on several occasions. Their most well documented contacts centered about the life and death of Revere Osler. From Crile's biographic records there was evidence that he met with Osler near the time of Revere's birth and more poignantly was with Cushing at Casualty Clearing Station no. 47 working hand in hand in their futile effort to save the lad. Osler personally acknowledged and thanked Crile for his efforts.

Crile and Cushing are both buried in Lakeview Cemetery in Cleveland, Ohio.

Learning Objectives:

1. Describe the career and accomplishments of George S. Crile in particular his contributions to science, organized medicine and the World War I effort.
2. Contrast Crile's career with that of Harvey Cushing, his friend and colleague and comrade in arms from Cleveland where both men lived and are buried.
3. Explore the circumstances and nature of Crile's relationship with William Osler.

The Horse-and-Buggy Doctor: How Arthur Hertzler Bridged Generations as Story-Teller, Student, and Physician

CONRAD FULKERSON

Conrad Fulkerson is Assistant Clinical Professor of Psychiatry and Medicine at Duke. He has taught the care of the patient to students and residents for over 30 years and designs medical school curricula around the topic of doctor-patient relationship. He is currently pursuing a certificate at the Center for Documentary Studies at Duke.

As scientific medicine emerged in the eastern United States in the late 19th century, transition from home care to proprietary doctors to formally educated physicians occurred in the Great Plains. This was colorfully chronicled by surgeon Arthur Hertzler whose farm-boy origins and burning curiosity brought him to understand what it meant to be a doctor. He wore most proudly the identity of “the horse-and-buggy doctor”, the title of his 1938 book read world-wide.

In the simplest country school Hertzler was student and prankster. Determined to be an educated physician, he entered Northwestern and encountered Danish surgeon and pathologist Christian Fenger. With funds from practice he studied with Waldeyer and Virchow in Europe for two years. In 1901 Hertzler accepted a chair at University Medical College in Kansas City. He began his first medical book with a St. Louis illustrator traveling back and forth by train consigned to the smoking car with his buckets of tumors.

Hertzler later became Professor of Surgery at the new University of Kansas School of Medicine while commuting to his native Halsted, Kansas. From humble beginnings he developed a clinic, 210 bed hospital, 8,000 volume library, and research laboratory. He took medical students to the baseball game instead of giving a final exam, was adored by staff and patients, and was weekly “grandpa” at a local children’s home. He often provided free care and medicine. With a passion for shooting, Hertzler frequently ended a long day with his pistol in the countryside shooting jackrabbits from a moving car.

“I am supposed to be a surgeon but that is a mistake. I’m just a general practitioner who operates. Though I have done a couple thousand operations a year for a long time that is only a small part of my work. My long suit is asthma, hyperacidity ... and ringworm of the feet.”

In the finest Oslerian tradition tall, Lincolnesque Arthur Hertzler built life upon hard work, study of patients and diseases before him, living as an inspiration to others, and reverence for books, education, and practical, meaningful care of humanity. His energy, devotion to learning, wit and engaging manner engendered the passion in those around him that we know to be the greatest legacy of memorable teachers.

Learning Objectives:

1. Describe medicine as it was practiced in the rural Midwest in the late 19th century.
2. List three major contributions to medical education of the physician Arthur Hertzler.
3. Outline three methods of the study of pathology available to the late 19th century.

Canaries, Caissons, Carbon Dioxide and Monoxide: J. S. Haldane (1860-1936)

DARRYL D. BINDSCHADLER

Darryl D. Bindschadler trained at the University of Rochester, Barnes Hospital, the National Institutes of Health, and the University of Colorado and practiced pulmonary medicine for 30 years in Cheyenne, Wyoming.

The single word Haldane family motto was: “Suffer”. Suffering was not a goal in itself. Putting your own life and comfort on the line in order to relieve the suffering of others, that was the ultimate good. J.S. came to “care enormously for science, for public welfare and for achieving a unifying philosophy of life, but did not give a damn for personal glory.” If Haldane had any need for world acclaim, he could have achieved it. Haldane graduated from the University of Edinburgh in 1879, studied at the University of Jena in Germany and gained his full set of qualifications from the Edinburgh Medical School in 1885.

In Dundee he launched his lifelong inquiry into adverse atmospheric circumstances, some natural and some man made, to answer the questions— “What is bad air?” “What makes air dangerous to breathe?” “How can its bad effects be prevented?” Most of his studies involved self experimentation, often risking his health and occasionally his survival. He used himself as a test subject inhaling life threatening concentrations of carbon monoxide, breathing potentially lethal chlorine gas, and studying responses while breathing rarified high altitude air. He encountered poisonous gases from deep underground mines and the polluted air of sewers and underground tunnels. He developed a safe, staged decompression plan to prevent the bends from deep water diving and in caissons. His discoveries in respiratory physiology provided a greatly expanded understanding of the basic drivers of breathing as well as the Haldane effect in the downloading of oxygen to body tissues.

Haldane’s nutritional advice resulted in a greatly lowered death rate in British concentration camps during the Boer. In April 1915 Haldane overcame Churchill’s insistence on the use of a totally ineffective device to counter the effects of chlorine gas. Haldane and his son inhaled chlorine gas in order to develop a practical and reliable gas mask. During and after WW I he and Sir William Osler were deeply involved in treating and rehabilitating troops who had been gassed. Haldane developed practical systems for administering measurable, safe concentrations of oxygen and became known as the “father of oxygen therapy.”

Haldane condemned the doctrine of “vital force” and the mechanistic theory of life. To him Physiology implied the nature of the life of the whole organism. All his work showed the amazing delicacy with which the different functions of the body are coordinated during normal life.

Having rejected all offers of peerages and knighthoods, Haldane’s public and professional honors came as a Companion of Honour, a Fellow of the Royal Society, the Copley Medal and the President of the Institution of Mining.

Learning Objectives:

1. List three contributions of J. S. Haldane to our knowledge of respiratory physiology.
2. Describe Haldane’s contributions to the British effort during the Great War (World War I).
3. Contrast Haldane’s understanding of physiology as a scientific discipline with the viewpoints of those ascribing to a doctrine of “vital force”.

A. J. Cronin: A Neglected Physician/Author

PETER E. DANS

Peter Dans is Associate Professor of Medicine and of Health Policy and Management at Johns Hopkins with expertise in infectious diseases, geriatrics, quality assurance, and ethics. Since 1990, he has written "The Physician at the Movies" column for Pharos, the quarterly publication of Alpha Omega Alpha. His books include Doctors in the Movies: Boil the Water and Just Say Aah!, Perry's Baltimore Adventure: A Birds-Eye View of Charm City (for children) and Life on the Lower East Side.

Sir William Osler was famous in his lifetime for his skill as a clinician and his influence on the practice of medicine. Much of that influence persists through his writings which were aimed at a physician audience. By contrast, A.J. Cronin, a native of Cardross, Scotland, and a graduate of Glasgow University, found a wide audience among the general public. His medical training was interrupted by a stint as a naval surgeon in the World War I. While completing medical school, his most affecting rotations were caring for the poor in Dublin and the insane at Locklea Asylum, as well as an apprenticeship with a Dr. Cameron in the West Highlands. The latter was the basis for the ailing Doctor Page in his semi-autobiographical novel *The Citadel* and for the central character in *Doctor Finlay's Casebook*, set in the fictional town of Tannochbrae. After graduation, he served as a Welsh mining inspector and as a practitioner in London, where he graduated from a hardscrabble existence to treating "asthenia" with saline injections in what he called "the worst end of the best society". Boredom and a duodenal ulcer led him to quit clinical practice in 1930 and to pursue writing novels. As he said, "The medical profession proves the best training ground for a novelist since there it is possible to see people with their masks off".

His writings, like those of Osler, were heavily skewed by his idealism and concern for humanity. His impact on medicine, while far less than that of Osler, was still enormous as a result of *The Citadel* which became a rallying cry for medical reform. It earned him scathing criticism in both the *British Medical Journal* and the *Journal of the American Medical Association*, but also praise not just from the public but from Hugh Cabot of the Mayo Clinic. Using clips from the 1938 film, I will illustrate Cronin's concerns about bogus doctoring and fee-splitting as well as the development of a payment scheme to assure universal medical care. His star waned considerably after his death, but he deserves to be restored to his proper place in the pantheon of physician/authors. In that respect, I am repaying a debt in that his autobiography, *Adventures in Two Worlds*, given to me while I was recuperating from an illness prior to entering college, helped me decide to pursue medicine instead of the law.

Learning Objectives:

1. Contrast Osler's non-fictional, hortatory approach to encouraging idealism in medicine with Cronin's fictionalization of events and narrative style.
2. Describe how the concerns about paying for medical care traveled across the Atlantic.
3. Discuss the scope of A J Cronin's work.

Charles Granville Rob, M.D.—
A Surgeon of “The Greatest Generation”

ROBERT R. NESBIT, JR.

Robert R. Nesbit, Jr. was Chief of Vascular Surgery at the Medical College of Georgia until his retirement in April 2000. Although he is no longer involved in patient care, he continues to be active teaching at the Medical College. He has been a member of the American Osler Society since 2003.

As I noted last year, Charles Rob was a true pioneer in vascular surgery. At last year's meeting in Montreal, I used Dr. Rob's diaries and described his early years—his education and training and his experiences at the start of World War II. In this presentation I will follow his career through the war to his emigration to the United States in September of 1960 to become Professor and Chair of Surgery at the University of Rochester.

During the war Rob gained broad surgical experience and rose rapidly in rank and responsibility. He returned to post-war England and had a similar rapid rise in his profession, becoming Professor of Surgery at the University of London in 1950 at the age of 37. He lectured, consulted and operated in many countries around the world. Along the way he encountered Ernest Hemingway, Pope Pius XII, the Queen Mother, the Sheik of Kuwait and Winston Churchill as well as Alexander Fleming and Roger Bannister. Dr. Rob became a close friend of Francis Moore and in 1952, at age 39, he served as Visiting Professor and Surgeon-in-Chief Pro Tem at the Peter Bent Brigham Hospital—and was honored with a formal dinner at the Harvard Club.

In 1954, with Eastcott and Pickering, Rob reported the first successful surgery for carotid stenosis. Dr. Rob's diaries offer many details of medical and social as well as personal history and give unique glimpses into an exciting time.

Learning Objectives:

1. Describe Dr. Rob's importance in the history of vascular surgery.
2. Describe the influence of World War II on Dr. Rob's career.
3. Describe changes in medicine during this period.

Doctors on Display: The Evolution of Television's Doctors

ELLIOT TAPPER

Elliot Tapper is a medical student with a passion for the examined life. He loves "answers second and questions first", promising to go wherever they shall lead. Despite technically beginning his journey on the Canadian prairies, he claims birth at University of Chicago. Currently studying medicine in Atlanta, he intends to pursue a fellowship in Hepatology.

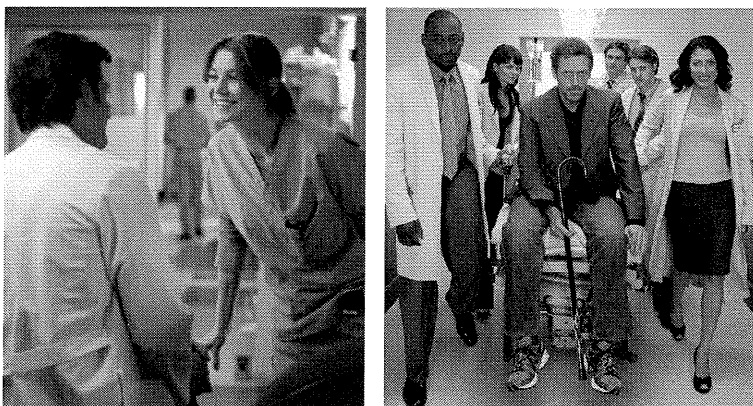
First portrayed as infallible but caring supermen with smoldering good looks and impeccable bedside manner, today's television doctors, despite their laudable and new-found diversity, seem to have regressed. If today's doctor-characters are competent then they have a God complex; if good looks then arrogant, if well-mannered then weak. What happened and how did this transformation take place? In other words, how and why did we start with hero and end up with zero?

The present and woeful state of the television doctor in shows like "Grey's Anatomy" and "House" is inextricably linked to the first and formative representation of the genre, 1954's "Medic". Such that in between the discussion of first and final we will find, in this genre's various saltations, a coherent and compelling story about the interaction between television and its viewers. A complex but constant conversation between viewer and viewed is articulated over time in the permutations of the doctor-character, representing, at once, public attitudes towards doctors, medicine and science.

Everywhere and always, the history of television's doctors speaks loudly of the character of the public's present and future conception of doctors as well as their faith in the aims and institutions of modern medicine. At this time, unfortunately, this story is not quite a happy one. Abstracted from this viewing of viewership over time is a fractured bond between doctor and patient that began as a mutually rewarding human relationship and devolved into the individual and bifurcated pursuit of base ends; of immediate and perfect cures for patients and of power and its spoils for doctors.

Learning Objectives:

1. Explain the relationship of doctors' television representations to the social context in which they aired.
2. Describe how public attitudes towards doctors and medicine materialize on television.
3. Discuss a systematic application of clinical technique to historical argument.



Scenes from "Grey's Anatomy" (far left) and "House"

Leonard Wood: Doctor, Soldier, and Pioneer of American Imperialism—The Early Years

GORDON FRIERSON

Gordon Frierson practiced internal medicine and infectious diseases in Oakland, California, for 35 years where he also operated a travel medicine clinic in Oakland and served as attending physician at the Tropical Medicine Clinic at the University of California. He is currently retired with the title of Clinical Professor Emeritus at the University of California.

Physicians' careers may follow strange paths. But what physician ever became an Indian fighter, commander of an army unit in combat, a city's military governor with dictatorial powers, governor general of an entire colony, physician to a president's wife, and friends with three presidents? All in the first half of his career?

This unusual physician, Leonard Wood, born in 1860, after failing in private practice, turned to the army medical corps. He was sent west where he was needed for the military forces engaging Geronimo's Indians. There he functioned as a physician and active participant in a physically grueling chase, often volunteering for extra duty, and was eventually awarded the Congressional Medal of Honor for these activities. A few years later he was assigned to Washington DC, where he forged significant contacts. He became the physician to President McKinley's wife, dined at the White House, and befriended Grover Cleveland and Theodore Roosevelt. At the outbreak of the Spanish-American war he was appointed commander (in spite of having no formal military training) of the renowned "Rough Riders", with Roosevelt serving under him. He showed exceptional bravery in the campaign to Santiago, Cuba and was appointed military governor there. He brought the impoverished and disease-ridden city to prosperity, with proper schools, courts, hospitals, markets, and a functioning economy. His next office, reached not without pulling strings, was the governor generalship of Cuba, which he exercised with equal energy and resourcefulness. The Walter Reed Commission functioned under his governance, carrying out the first human experiments attended with written informed consent. He left Cuba in 1902 with almost half of his career still ahead of him.

Leonard Wood's extraordinary accomplishments were realized through a combination of intelligence, incorruptibility, altruism, innate managerial skills, and arduous work. These qualities were flavored with a supreme self confidence, and tinged with strains of arrogance, intolerance, and a quest for power. Occasional autocratic actions foreshadowed darker events in the Philippines. His skills as military commander and governor seemed to emerge out of nowhere. He was a pioneer of "American Imperialism", something new in American history. His outlook, not uncommon for the time, was that those he governed were dubiously capable of governing themselves, and he saw as a benefit his role as a supreme authority. Perhaps he reconsidered moral principles learned as a physician. The final chapters in his life are beyond this paper but demonstrate some of the darker sides of his multifaceted personality.

Learning Objectives:

1. Recount Leonard Wood's role in the struggle against Geronimo.
2. Explain Wood's role in the restoration of Cuban life after the Spanish American war.
3. Name the medical and sanitation problems in post war Cuba and the importance Wood attached to them in rebuilding the society.

The Astonishing Career of General Leonard Wood, M.D.

DANIEL D. MORGAN

Daniel D. Morgan trained in orthopaedic surgery at the Walter Reed Army Medical Center, served in Vietnam, practiced in Fremont, California for many years, and in his retirement continues to serve as co-chairman of the Bioethics Committee at the Washington Hospital in Fremont.

Only one American physician has a major fort bearing his name. When Leonard Wood is remembered, if at all today, it is for his accomplishments as a soldier and an administrator. His medical training landed him in the Army and broadened his scope, but it did not soften his heart. Whether serving as a medical officer or ascending (from his perspective) into the rank of a line officer, his dedication to the military mission was always his foremost concern. A contemporary of Osler—their paths crossed many times—he has most recently been introduced to the Osler Society by Michael Bliss, as Cushing's patient in *Harvey Cushing: A Life in Surgery*. He also appeared in Kurt Vonnegut's last book *A Man Without a Country* as the subject of Mark Twain's scorn and disgust as the commander of the Moro massacre in the Philippines.

There is a dark side to this immensely accomplished soldier-physician who came within a hair's breadth of being the Republican Candidate for President of the United States in 1920. Medicine as a profession has produced many talented members with extensive interests and skills, but few, if any, have ever been as powerful as Leonard Wood. His seemingly inexhaustible energy and incorruptibility combined with a quest for power and self promotion made him a major force on the national scene for almost three decades.

Wood's role in the massacre of the Islamic Moro insurgency must be contrasted against his many achievements particularly in Cuba and in preparing the United States for World War I despite strong presidential opposition. Understanding this complex man, the issues he faced, and the factors allowing him to escape destructive censure after this slaughter is meaningful for our time. His history has contributed to our national character. Islamic insurgency and the means to defeat it are front page news today. The answers invite bitter debate. It is an irony that in 1906 a physician with the military power chose complete annihilation as his response, and indeed he was highly praised by his President.

Knowing and learning about physician and soldier, Leonard Wood, provides lessons for all of us. Asking the questions to understand him is essential for the challenges we face today.

Learning Objectives:

1. Evaluate the challenges present for a physician when confronted with a military mission that conflicts with medical ethics.
2. Discuss the contributions of Leonard Wood both as a physician and soldier, to the growth of the American empire.
3. Describe the relevance of Wood's challenges during the early twentieth century to those facing our world today.

The Relationship Between Sir William Osler, Sir D'Arcy Power, and Harvey Cushing

J. MARIO MOLINA

J. Mario Molina, who as CEO of Molina Healthcare concerns himself especially with providing healthcare to low-income populations, suffers from bibliomania, having been first infected during his internship at the Johns Hopkins Hospital.

After Sir William Osler's death in 1919 two surgeons, Harvey Cushing and Sir D'Arcy Power, living on opposite sides of the Atlantic Ocean played important roles in keeping the memory and ideals of Osler alive. I first became interested in Power when I came across a copy of *The Gold Headed Cane* inscribed by Osler to Power. Who was D'Arcy Power, and what was his relationship with Osler?

D'Arcy Power was born in London in 1855. He became a surgeon like his father and spent his entire career at St. Bartholomew's Hospital. Osler and Power shared a love of medical history, biography and bibliography. They were friends even before Osler became professor of medicine at Oxford in 1905. With Osler's help, the Section of the History of Medicine of the Royal Society of Medicine was founded in 1912. Osler was its first president and Power its first secretary. Both men collected books. Osler's library went to McGill after his death but Power's was sold at auction. In *Bibliotheca Osleriana*, Power is cited 28 times; some of the items were inscribed by Power. Both men wrote biographies. Osler's essays were collected in *An Alabama Student and Other Essays* while Power contributed 200 biographies to the Dictionary of National Biography and published a short biography of William Harvey. Osler served as president of the Bibliographical Society in 1913 and Power in 1926. Both men lost sons in the First World War.

Osler may have introduced Cushing to Power. Cushing invited Power to Yale in 1924 to be visiting surgeon. On that visit Power critiqued the portion of the manuscript of Cushing's *The Life of Sir William Osler* that dealt with the English period of Osler's life. In 1928, two medical students founded a club devoted to the history of medicine. Initially it was to be named for Sir Clifford Albutt, but after a visit with W.W. Francis, the club had found its "patron saint" in Osler. The Osler Club of London was born. The initial goals were to encourage the study of the history of medicine and keep "green the memory of Sir William Osler." In the first ten years of its existence, Power made two presentations, was listed a discussant 12 times, and he hosted the club in his home three times. At the third meeting of the club he "displayed a selection of important medical books from his shelves" and exhorted members "to see, handle and smell but not lick them" much as Osler would have done. In 1930, Cushing stayed with Power when he presented the third Osler Oration titled "On his life of Osler" at the Osler Club meeting. Cushing attended another meeting in 1938. He died in 1939; Power died in 1940. Both Cushing and Power were friends and admirers of Osler. Through their efforts on opposite sides of the Atlantic, Cushing and Power did much to "keep green the memory of Sir William Osler."

Learning Objectives:

1. List three parallels between the lives of Sir William Osler and Sir D'Arcy Power.
2. Explain why the Osler Club of London is not the Allbutt Club of London.
3. Give two examples of how Cushing and Power kept Osler's legacy alive.

The Oslers and the Mallochs

CHARLES G. ROLAND

Charles Roland, a founder and former president of the AOS, recently retired as the Jason A. Hannah Professor of the History of Medicine at McMaster University. His most recent books have dealt with the Warsaw Ghetto, 1940-1943, and with the condition of prisoners of the Japanese during World War Two. A biography of Archibald Edward Malloch should be published soon. His papers relate to many topics in 19th and 20th century Canadian medicine, and to William Osler. He has published several bibliographies, including (with co-authors) three relating to Osler.

Between the 1860s and the 1920s, William Osler, Grace Revere Osler, Archibald Edward Malloch, Thomas Archibald Malloch and, to a lesser degree Edward Revere Osler lived a remarkable relationship of respect, support, affection, and love. The initial relationship began about 1869, soon after Archibald Malloch (1844-1919) set up practice in Hamilton, Ontario. He met William Osler (1849-1919) fortuitously, when they separately identified *Trichina spiralis* in a family in Malloch's care. Osler was at the time a student in Toronto whose family lived in Dundas, just three or four miles from Hamilton. They became fast friends, and remained so until 1919, the year both men died. The strongest and most intimate emotional relationship amongst the five principals is that connecting both William and Grace and Archie Malloch's son, T. Archibald Malloch. The last was one of Osler's physicians when he died; his notes are a remarkably detailed source on Sir William's last illness. And Malloch junior's impact on matters Oslerian continued long after the death of all three Oslers. Based partially on previously unused documents, this presentation will describe the various effects of these interlocking relationships. In many instances, the impact resounds into the new millennium.

Learning Objectives:

1. Chart the intersecting careers of two important Canadian medical families.
2. List the five principals responsible for the creation of the highly influential *Bibliotheca Osleriana*.
3. Outline the powerful influence of one man – Sir William Osler – on a medical centre: McGill University Faculty of Medicine.

A Death in the Family: Osler—Cushing—Kollwitz

CLAUS A. PIERACH

Claus Pierach is Professor of Medicine and History of Medicine at the University of Minnesota Medical School, Twin Cities Campus, Minneapolis. He continues his clinical work with porphyria. He is a past president of the American Osler Society.

Three prominent families, roughly contemporaneous, suffered the loss of a young son. The Oslers lost their son, Revere, (21) in World War I (1917) as did the Kollwitz', when their son, Peter, (18) was killed in 1914. Both young men had volunteered to serve in their respective armies. Cushing's son, William, (22) died in 1926 in a car accident.

While the depth of their grief cannot be fathomed, the way these families dealt with it reveals much about their character and make-up of these individuals and their family relationships. Medicine loomed large in all three families. Where Osler and Cushing were well known physicians, Peter Kollwitz' father was a family physician in Berlin taking care of working class people. William Osler's life was visibly broken by the death of his son as evidenced by many documents from the time of Revere's death and vividly depicted in letters from Revere's mother, Grace. Harvey Cushing was preparing for an operation when he was notified of his son's death. He briefly informed his family and went on to operate, successfully. Afterwards he went to claim his son's body. Both of these physicians sought solace in their work whether it was in the operating suite, in writing, speaking engagements or teaching. Kaethe Kollwitz, arguably the premier graphic artist in Germany in the 20th century began almost at once after Peter's death to work on a memorial for him, a gestation that took 18 years. It was clearly not intended to be a heroic monument but rather to illustrate the grief felt for any fallen soldier. Shortly after Peter's death her extensive diary quotes Goethe: "Seed grain must not be ground." Throughout her mourning she continued to be productive on paper and in sculpture. This artistic activity no doubt culminated in the sculpture of grieving parents, who clearly resembled herself and her husband. This sculpture was placed at their son's cemetery in Belgium in 1932. The Kollwitz' grandson, also named Peter, was killed in WW II (1942), driving her from grief to despair during her last few years in life. After losing her home in Berlin and evacuating the city she died near Dresden (1945).

The tragedy of losing a loved one, especially when it is a young person, remains indescribable. Glimpses of a personal grief from a distance, be it of deeds, words or the arts, allow us to see a common thread: the immersion in work as perhaps the most effective distraction in what S Freud called *Trauerarbeit*, the work of mourning. This requires what C. Vincent said of Cushing and his *discipline de fer*, applicable to these three families. In the end, the scars look all alike, making it impossible to say what kind of wound was incurred and how deep the pain went.

Learning objectives:

1. Describe similarities and differences how three families dealt with the death of a son.
2. Compare the expressions of their grief.
3. Comprehend the beauty of Kaethe Kollwitz' artistic work.

Experiences with Cicely Williams, the Last Living Student of Sir William Osler

BILLY F. ANDREWS

Billy Andrews, a founder of clinical neonatology, is Professor and Chairman Emeritus of Pediatrics at the University of Louisville School of Medicine, has been a member of the American Osler Society since 1972 and is a past president (1996-1997).

Truly one of the most influential women of world medicine in the 20th Century was Doctor Cicely Williams, who was born in Jamaica in 1893. After taking First Aid and nursing classes and after the death of her Father, she received her medical training at Oxford, her Father's alma mater. The First World War was going on and there were many open positions in the Medical School at Oxford. Somerville College was next to The Radcliffe Infirmary where she made her way many times to be on rounds with Sir William Osler. She immediately began to hold him in highest respect not for just his medical knowledge and acumen but his "Universal Mind." His favor did not allow her to secure a position in Great Britain but she accepted a position in the British Colonial Office and was sent to the Gold Coast (now Ghana) in 1929 where she spent 7 years. Her most important contribution to world medicine and Paediatrics was her diagnosis of kwashiorkor as a protein deficiency disease. In the 30s Doctor Williams was transferred to Malaya and during World War II she was in a Japanese prisoner of war camp which brought her near starvation and death. Even in these stark circumstances she used her vast knowledge of maternal and child health to successfully deliver over 20 mothers and their infants.

After the War her responsibilities escalated to national and international levels as she championed public health, nutrition and child welfare services. Doctor Williams fervently stressed breast feeding and campaigned against the promotion of dried and canned milk instead of breast feeding in Third World Countries. She led the United Nations' efforts for Maternal and Child Health, training of personnel, and development of health services. She was an avid advocate of birth control and prevention of War. I was privileged to be with her at many locations; New Orleans, Miami, Louisville, Atlantic City and in the United Kingdom at Oxford and London.

I will also be privileged to share these experiences which show Doctor Williams' great ability, character and purpose. Sir William Osler, I am sure, would be proud of her great accomplishments and influence on a man's world which now benefits all women who wish to study medicine and even contribute to other fields. She attended many meetings related to Osler throughout her long life and several of the American Osler Meetings to honor her great teacher. Some members may have good and strong memories of her. Doctor Williams died in 1992 just shy of her 100th birthday, having been the oldest living student of Sir William Osler.

Learning Objectives:

1. Describe at least two contributions of Cicely Williams in medicine.
2. Define kwashiorkor.
3. Explain how Osler enhanced Cicely Williams's life.
4. Discuss at least three areas of maternal and child health that Williams influenced.

Shared Genius—Samuel Johnson and William Osler

JOHN W.K. WARD

John W. K. Ward is a retired medical practitioner from Oxfordshire. He is a past president of both the Osler Club of London and the British Society for the History of Medicine. A lifelong Johnsonian he is a contributing member of both the London and Lichfield Johnson Societies and his main historical interests are in Johnson, Osler, 18th century British Medicine and 19th century French Medicine.

Samuel Johnson and William Osler were both academic giants in their own times, polymaths and acknowledged as such in life and thereafter. Both became the subjects of Pulitzer prize-winning biographies. Osler knew Johnson's life and works well and would quote frequently from him with appreciation.

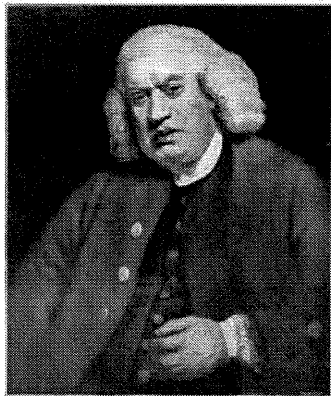
Osler personified all that was best in medicine yet was baptised in literature and philosophy and Johnson, a literary genius was only too well aware of all things medical.

There are many parallels between them—a Christian / humanistic approach, early exposure to literature, love of the same writers such as Shakespeare, Browne and Burton, encyclopaedic retentive memories, “clubbability”, prodigious literary outputs including what became standard works and authorship of multiple biographies. They both continue to attract hero-worship and are the subject of multiple articles and lectures.

This paper seeks to illustrate and analyse the areas of similarity and difference.

Learning Objectives:

1. List the characteristics shared by Johnson and Osler.
2. Discuss the requirements of a good biography.
3. Discuss whether a broad-based education is desirable or indeed possible today.



Samuel Johnson

Harper, Gates, Osler, and Rockefeller: The Institute for Medical Research

MARVIN J. STONE

Marvin J. Stone is Chief of Oncology and Director of the Charles A. Sammons Cancer Center at Baylor University Medical Center in Dallas. He directs the internal medicine clerkship and the medical oncology fellowship program. Dr. Stone received the Lifetime Achievement Award from the International Society for the Study of Waldenström's Macroglobulinemia and is a past president of the American Osler Society.

The University of Chicago (U of C) was founded in 1892 with a gift from John D. Rockefeller, Sr. He wanted the new university to become the principal Baptist institution of higher learning in the Midwest. The university's first president was William Rainey Harper, a 35 year old Biblical scholar. He had learned to read at age 3, entered college at age 10, received a B.A. degree at 14, and a Ph.D. from Yale at 18. Harper assembled an outstanding faculty which rapidly placed the U of C in the forefront of American education. During the first decade of the U of C's existence, the Reverend Frederick Gates served as philanthropic advisor to Rockefeller. In 1897 Gates read William Osler's *Principles and Practice of Medicine* and was profoundly influenced by the excellence of the textbook. He was also appalled by the lack of knowledge about causes of human disease and effective treatment. Gates therefore advised Rockefeller to establish an Institute for Medical Research.

Because of Rockefeller's ties to the U of C, it was initially thought that the new Medical Research Institute should be located there. However, Harper and Gates vehemently disagreed about the university's direction of education and finances. Harper was a visionary leader but Gates felt the university was developing in too liberal a direction which did not fit the model Mr. Rockefeller intended. The U of C was also negotiating an association with Rush Medical College which Gates opposed. The conflict became so serious that Gates and others advised Rockefeller to found the research unit in New York City. The Rockefeller Institute for Medical Research was established in 1901 free of university, government or commercial control. Harper went on to develop the U of C as a front-rank university emphasizing liberal education and even football. How much greater could the U of C have become if the Rockefeller Institute for Medical Research had been placed there? Would the Institute have been as successful in Chicago as it has been in New York?

Learning Objectives:

1. Discuss the factors leading to the decision to locate the Rockefeller Institute for Medical Research in New York City.
2. Explain William Osler's role in formation of the Medical Research Institute.
3. Contrast the views of William Rainey Harper with those of Reverend Frederick Gates.

The National Library of Medicine: The Continuing Legacy of William Osler and John Shaw Billings

STEPHEN B. GREENBERG

Stephen B. Greenberg is Professor of Medicine, Herman Brown Teaching Professor and Senior Vice President and Dean of Medical Education at Baylor College of Medicine. He has been Chief of Medicine at Ben Taub General Hospital since 1990.

William Osler was consistently supportive of the growth of libraries and their importance to accessing information for the practicing physician. The National Library of Medicine (NLM) has developed over the past 170 years to become the premier, international medical library and source of information for physicians and the public.

The NLM began as the Library of the Surgeon General's Office (1836). It had major growth from 1865 – 1895 under the leadership of John Shaw Billings, MD. During those 30 years the *Index Catalogue* and *Index Medicus* were developed. Through personal contributions and support of the American Medical Library Association, William Osler was an early supporter of the Surgeon General's Library and the concept of regional medical libraries. In the 1920's, the Surgeon General's Library became known as the Army Medical Library and in 1961, the NLM was moved out of the Department of Defense and into the National Institutes of Health.

The history of the NLM from 1961 to the present includes many crucial innovations in information technology (IT). In 1964, NLM implemented MEDLARS (Medical Literature Analysis and Retrieval System). In 1964, the Regional Medical Libraries (RML) were funded and in 1968, the Lister Hill Center was opened. In 1971, the online literature retrieval system, MEDLINE, was implemented. By 2000, PubMed and MEDLINE Plus were added capabilities for searching health care information.

The future of the NLM, as an institution, is to lead in innovations in IT and to be the guardian of the "legacy" of libraries and print media. The immediate availability of patient information and medical knowledge at the point of care should allow physicians to exercise their judgment more effectively than at any time in the past. William Osler and John Shaw Billings would be proud of what the NLM has become – a true national treasure.

Learning Objectives:

1. Explain the role William Osler and John Shaw Billings had on the growth of the Surgeon General's Library, a precursor to the NLM.
2. Describe the role of the American Medical Library Association in support of the NLM.
3. Discuss the importance of the Regional Medical Libraries Program, MESH, MEDLINE, and PubMed on the access and dissemination of health care information to health care providers.

William Osler Organizes a Special Meeting in London in 1912 During a Visit by Willem Einthoven, the Inventor of the Electrocardiogram

ARTHUR HOLLMAN

Arthur Hollman was formerly the cardiologist at University College Hospital, London, England, until his retirement in 1987. He is the archivist of the British Cardiovascular Society, the biographer of Sir Thomas Lewis, and a former president of the Osler Club of London.

The invention of the modern electrocardiogram by Willem Einthoven of Leiden Holland in 1901 revolutionised the diagnosis of heart disease and enabled clinicians to diagnose arrhythmias with precision, to identify myocardial disease for the first time and to study cardiac electrophysiology. Physicians who visited Leiden to learn about this new invention, called a string galvanometer, included George Fahr from the USA and Thomas Lewis from London.

In 1912 Einthoven was invited to lecture on March 19 at the small Chelsea Clinical Society in London and learning of this Osler realised that this was an exciting opportunity to enhance his visit so that others could meet and learn from Einthoven. Together with Lewis an extended program was organised at short notice, and this is recorded in four letters from Osler to Lewis which are in my possession and which have never been published. They are headed From the Regius Professor of Medicine, Oxford.

The first one, on February 5, starts, "Dear Lewis, Yes, we certainly must do something for Einthoven. I will write and ask him to pay me a visit here as he would of course like to see Miss Buchanan. Have a chat with Mackenzie. It might be best if I had him meet 24 or 25 men at the Athenaeum". Two days later another idea had surfaced, "I suppose we could have a special meeting of the Clinical Section (of the Royal Society of Medicine [RSM]) of which I am President." By February 14 Osler had heard from Einthoven, and by the time of the last letter on February 28 everything seems to have been arranged, with a dinner at the Athenaeum on March 18 and the RSM meeting on March 20. Typically for Osler he had the young physicians in mind for that meeting when he wrote, "I will get some of the clinical colts with cardiac leanings."

The meeting of the Clinical Section of the RSM took place at University College Hospital Medical School where Lewis had his laboratory. The vice president Dr Samuel West was in the chair. (Why was Osler not there?) Lewis welcomed Einthoven saying that few men were given to make new inventions and adding with Welsh fluency, "Such men are incalculable benefactors of the human race". Einthoven and Lewis read papers on the human electrocardiogram and Dr Florence Buchanan spoke on heart block in the hibernating dormouse. The meeting was notable in that Einthoven was able for the first time to meet James Mackenzie whose work he greatly admired.

Learning objectives:

1. Discuss why the invention of the electrocardiogram was so important and who were the physicians to put the method into practice. What was Mackenzie's cardiac research and what did he and Osler think about this new method? Observe that it was a lady doctor who was doing pioneer cardiac electrophysiology.
2. Review the origins of the Royal Society of Medicine and the part that Osler played in its development. Note that the Athenaeum club in London had Osler and his fellow Regius from Cambridge, Sir Clifford Allbutt, as members.
3. Examine the later careers of Willem Einthoven, William Osler and Thomas Lewis in respect of the electrocardiogram. Why did Einthoven visit the USA in 1924?

A Common Mechanism for Dementia and Renal Failure in the Elderly—and for Pulmonary Hypertension in Adolescents with Left to Right Shunt?

MICHAEL O'ROURKE

Michael O'Rourke is Emeritus Professor of Medicine at Univeristy of New South Wales in Sydney, Australia and Cardiologist at St. Vincent's Hospital. As a physiologist and clinician, he has had a life long interest in arterial hemodynamics, and presently applies this to studies of aging. He is joint author of the standard text, McDonald's Blood Flow in Arteries (5th edition, 2005) and the joint editor with ME Safar of Handbook of Hypertension, volume 23.

The success of William Osler as clinician and teacher was largely based on competence in pathology – specifically, fascination with microscopic structure, and desire through this to explain mechanisms of disease processes. The purpose of this paper is to consider such an approach to the development of dementia and renal failure in the elderly as a consequence of aortic stiffening.

William Osler in his textbooks did not refer to atherosclerosis directly, but, after Councilman, described arteriosclerosis as nodular, diffuse, and senile. The first corresponds to what is presently called atherosclerosis, the second to hypertension as seen at the time, and the third to the condition of isolated systolic hypertension now seen as the major cause of cardiac failure in the elderly. Osler and his English friend and colleague Sir James Mackenzie described the ill effects of arterial stiffness on the heart and bodily organs. Further progress in this field followed histological studies as conducted by Osler, and studies of pulse waveforms as undertaken by Mackenzie. Fisher in Boston linked cerebral lacunar infarcts in older persons with small vessel disease characterised by thrombosis and hemorrhage. This was not atherosclerosis. Byrom from London and Sydney, in human and experimental studies, linked accelerated hypertension with similar small arterial lesions, while Edwards at Mayo Clinic showed similar lesions in pulmonary microvasculature of children with left to right shunts as the cause of pulmonary hypertension in congenital heart disease. These lesions are now attributed to high pulsatile flow caused either by a congenital shunt or by failure to cushion flow pulsations in the rigid aged proximal aorta – the “Pulse Wave Encephalopathy” described by modern MRI techniques in persons with dementia.

Modern physicians are apt to consider ischaemic vascular insults as caused by atherosclerosis. Osler had a broader view. His understanding of other types of arteriosclerosis and their ill effects laid the base for the more enlightened view on microvascular disease in older persons that is currently emerging to explain increasing prevalence of dementia and renal failure in our aging society.

Learning objectives:

1. Explain the relationship between aortic stiffening with age and microvascular disease in brain and kidney.
2. Contrast atherosclerotic disease in large arteries (>2 mm diameter) with non-atherosclerotic disease in small arteries (<0.5 mm diameter).
3. Explain the basis of similar microvascular lesions in brain and kidney of older adults with those in the lungs of adolescents with left to right shunt.

Medical Education in Baltimore before William Osler: The Legacy of John Beale Davidge

JAMES O. BALLARD

James O. Ballard, an alumnus of the University of Maryland School of Medicine, is Professor of Medicine, Pathology and Humanities and the Jane W. & Lawrence F. Kienle Chair for Humane Medicine at the Penn State College of Medicine, where he also serves as attending physician in the Division of Hematology/Oncology and instructor in the Department of Humanities.

In the eighty years prior to William Osler's appointment in 1888 as Physician-in-Chief and Professor of Medicine at the newly founded Johns Hopkins School of Medicine, the education of the American physician underwent a slow transformation. At the turn of the 19th century, physicians were trained by apprenticeship consisting of a lecture series in anatomy, surgery, midwifery, physiology and material medica, taught wherever rooms could be found by physicians who had either attended the College of Philadelphia and/or who had studied abroad where clinical ward experience was offered.

Early in the 19th century, Baltimore's "regular" physicians organized themselves into the Medical and Chirurgical Faculty which aimed to disseminate medical knowledge and to prevent its citizens from "risking their lives in the hands of ignorant practitioners or pretenders to the healing art". As early as 1799, this society discussed the need to standardize a more formal training of future generations of physicians.

John Beale Davidge received his M.D. from Glasgow University in 1793 and, soon thereafter, returned to his native Maryland to practice at the Baltimore General Dispensary, a hospital for the indigent. Seeking to improve medical education in Baltimore for "poor boys" who could not afford training in Philadelphia and Europe, Davidge purchased land and built a small anatomical school in 1807. Supplied somehow with a cadaver, Davidge and colleague James Cocke began twice weekly lectures in anatomy. News of these lectures and demonstrations spread quickly, and an antidissection mob destroyed the building and its contents. The medical community became incensed, and the Medical and Chirurgical Faculty immediately lobbied for and received a charter from the state assembly to establish The College of Medicine of Maryland (the founding institution onto which The University of Maryland was later grafted in 1812.) In 1811, the faculty personally bore the expense of building R.C. Long's design of a "splendid edifice....constructed on the plan of the (old) Pantheon at Rome" which contained both an "anatomical hall" and a "chemistry hall". This facility, later named "Davidge Hall", survives as the oldest building in continuous use for medical education in the U.S.

The College of Medicine of Maryland became the fifth medical school in America following the establishment of private medical schools at University of Pennsylvania, Harvard, Dartmouth and Columbia. In 2007, the School of Medicine celebrated its bicentennial as well as the distinction of being the oldest public medical school in the U.S. and the first school to build a teaching hospital, the Baltimore Infirmary (1823), the forerunner of today's University Hospital.

Learning Objectives:

1. Describe the circumstances that led to the founding of the Medical and Chirurgical Faculty in Baltimore.
2. Explain how John Beale Davidge's educational efforts in Baltimore indirectly led to the creation of what is now the University of Maryland School of Medicine.
3. Name the first five medical schools in the United States of America.

The Varying Faces of William Osler's Prescription Recommendations

ROBERT I. LEVY

Robert I. Levy, a retired Baltimore nephrologist and alumnus of The Johns Hopkins University School of Medicine, is currently working on a history of nephrology.

William Osler was known for his conservative approach to the use of pharmacological agents. However that view will be shown to be nuanced depending upon his audience. Both the character of the audience and the circumstances of his recommendations influenced Osler's approach to prescription writing. Four different faces of William Osler's philosophy for the use of drugs ranged from the austere to the pragmatic. This paper will review these features of his use of the pharmacopoeia.

In the aphorisms, Osler was at his most severe, broadly condemning the over-use of medication. Such expressions, "Mankind has a craving for medicines...the desire to take medicine is one feature which distinguishes man, the animal from his fellow creatures." Or, "Drugging is not the chief function of the doctor." Such expressions seem to point to a very limited use of medicines, almost a total renouncing of drugs.

In addressing the graduation class of medical students at St. Mary's College in London, in the "Reserves of Life" Osler presents a less rigid approach, recommending knowledge and use of a "few great drugs". He emphasized the importance of knowing the history of the development and use of these drugs and the importance of hands on experience with their use. But he warns the students to have a "keenly skeptical attitude to the pharmacopoeia as a whole".

Osler's textbook *The Principles and Practice of Medicine* shows a similar emphasis on restraint in the use of medications, stressing the importance of nursing measures and general hygiene. In the chapter on typhoid fever initially he stresses the general care of the patient, the importance of a qualified nurse, use of diet. However, specific drugs are considered singly, and some in combination, as well, to handle the complications of the condition. The most radical departure of Osler's conservative approach occurs in his recommendation of phlebotomy in the management of acute pneumonia. Comparison is made with Osler's recommendations for the use of medications with a contemporary textbook, Alfred Loomis's *Practical Medicine* (1890).

The pragmatic side of Osler's prescribing is revealed in a study made by Dr. David I. Macht of prescriptions actually written by Osler in his home office and collected from the files of a pharmacy across the street from his office. In daily practice Osler prescribed a large variety of drugs, the majority as single agents avoiding the uncertainty of unknown interactions of compound prescriptions.

These varying faces of Osler's prescribing show him accommodating different audiences and circumstances in promoting the careful and beneficial use of medication.

Learning Objectives:

1. Evaluate the character of William Osler's usually conservative rational recommendations for medication and how it was nuanced depending on the varying audiences he was addressing.
2. Discuss briefly Osler's advice on therapeutics in (a) his aphorisms; (b) a lecture to graduating medical students; (c) his textbook; and (d) the actual prescriptions written in his home office and filled at the pharmacy across the street, as detailed in the article by David I. Macht, "Osler's Prescriptions and Materia Medica" published in *Transactions of the American Therapeutic Society*, Vol XXXV, 1935, pp.69-85.
3. Evaluate Osler's single outlier, and deviant recommendation for phlebotomy in the management of acute pneumonia and comparison of his recommendations with a contemporary text, *Practical Medicine* (1890) by Alfred Loomis.

The College of Physicians of Philadelphia, Osler, Chang, and Eng

JOSEPH B. VANDERVEER, JR., AND GEORGE M. WOHLREICH

Born in Pennsylvania Hospital, the nation's oldest, Dr. VanderVeer, like his father before him, is a Fellow of the College of Physicians of Philadelphia (CPP) the nation's oldest medical group. Dr. Wohlreich, a psychiatrist, is Director and CEO of the CPP.

William Osler was elected into fellowship in the College of Physicians of Philadelphia (CPP) three months after he joined the faculty at the University of Pennsylvania. Within a year he was active on the library committee, and over his lifetime donated many things to the College, including incunabula, monographs, pamphlets and individual numbers of journals. After his move to Hopkins, he continued to be active in the CPP and in 1893 presented a lock of Jenner's hair to its Mütter Museum. To the latter he also gave several photographs of the original Siamese Twins, Chang and Eng Bunker.

Born in Siam, Chang and Eng were joined by a tough tissue bridge situated near the xyphoid process of the thorax. In their adolescence they were brought by a Scotsman and an American sea captain to the United States. They initially supported themselves by being exhibited on tour. Through the influence of a physician friend they decided to settle in North Carolina, where they married sisters and began to (unsuccessfully) pursue farming. They later toured with P.T. Barnum. Over the course of their lives, many physicians (including members of the CPP) examined them and offered opinions on the feasibility of separating the twins. But an operation was never undertaken.

Thomas Dent Mütter (1811-1859) was a CPP Fellow who left his large anatomical and pathological collection to the CPP. [It is similar, though not so extensive, as the Hunterian Museum in London.] Because of a special interest of several CPP Fellows, the autopsy of the twins, who died at age 63, was undertaken at the College. Photos of the autopsy, a plaster cast of the twins and their co-joined liver now reside in the Museum.

What was Osler's interest in Chang and Eng Bunker? Was it purely medical? Or was the spirit of E.Y. Davis inquisitive as to just how the Siamese twins were able to father twenty-one children? This paper explores those issues with documents and photographs from the CPP and the Mütter Museum.

Learning Objectives:

1. Describe Osler's connection to the College of Physicians of Philadelphia.
2. Describe three events in the life of the Siamese Twins, Chang and Eng.
3. Describe William Osler's interest in Chang and Eng Bunker.

Joseph H. Pratt, M.D., Part II: The Man Who Would be Osler

CHARLES T. AMBROSE

Charles T. Ambrose trained in infectious diseases in Boston, was a research immunologist at Harvard Medical School, and is currently Professor of Microbiology at the College of Medicine, University of Kentucky, Lexington, where he also gives courses in the history of medicine. He is an expert on, among many other things, Irish Setters.

Joseph Hersey Pratt (1872-1956) was a member of the second class graduating from the Johns Hopkins Medical School. He described his student clinical contacts with Osler in a book (1949) entitled *A Year with Osler, 1896-1897*. After his graduation in 1898, Pratt remained in close contact with Osler through correspondence & visits and received from him regular encouragement and even indirectly financial help. Pratt's postgraduate medical education included working abroad for several short periods at clinics in Tübingen and Heidelberg.

Pratt spent his professional medical career in Boston—initially at the Boston City Hospital, Massachusetts General Hospital, and Harvard Medical School. At BCH he worked in pathology under Councilman and Mallory. At the OPD of the MGH he followed tubercular patients. None could afford stays in sanatoria, and in the absence of effective drugs, the outlook for most was grim.

In 1900 Osler had written a paper entitled "The Home Care of Consumption." Beginning in 1905, Pratt applied Osler's suggestions to the care of consumptives of Boston's South End. Not only were patients instructed in their homes on a regimen of total bed rest and good diet, but Pratt initiated weekly group meetings to monitor their progress and to provide encouragement. He entitled his approach at first "the home sanatorium method" and later "the class method." For a time, the program was run by the Emmanuel Church of Boston, but after 20 years the Commonwealth of Massachusetts assumed control. The program soon floundered without Pratt's dynamic involvement.

In the late 1920s, Pratt became Physician-in-Chief at the Boston Dispensary. He had previously worked at the neighboring pediatric hospital, The Boston Floating Hospital. A grateful patient of Pratt funded a 20-bed diagnostic clinic named in his honor. It later became the New England Center Hospital. In the early 1930s, nearby Tufts Medical School united with these three institutions to form the New England Medical Center (NEMC), which chose Pratt as its first Physician-in-Chief. Pratt's familiarity with German medicine enabled him to recruit a distinguished clinical faculty from among the refugees of Nazi Germany. These efforts helped make the newly created Tufts-NEMC into a leading medical resource for Boston and for all of New England. Needless to say, many other physicians were important here, especially Dr. Samuel H. Proger, Pratt's successor.

Notable among Pratt's clinical initiatives during the 1930-40 period was the employment of his "class method" in treating the many patients with mild psychoneuroses he encountered at the Boston Dispensary (BD). Elements of his group approach adopted from Joseph Jules Déjerine, a psychiatrist at Salpêtrière in Paris, were forerunners of the system now called cognitive behavioral therapy (CBT), which since 1950 in other hands has gradually supplanted Freudian psychotherapy.

The emphasis of my second talk about Pratt to this AOS audience will be on (1) the recognition he deserves for introducing to America not only group therapy but essentially also CBT and (2) the effort he made in his professional & personal life to emulate his mentor, William Osler.

Learning Objectives:

1. Explain the role Joseph H. Pratt played in the development of the New England Medical Center.
2. Describe Pratt's role in originating the practice of group therapy now widely used in many clinical fields.
3. Discuss Pratt's role in introducing to America the forerunner of cognitive behavioral therapy.

William Osler's *Principles and Practice of Medicine*: The Unwritten Chapter

ABRAHAM FUKS, DONALD BOUDREAU, AND PAMELA MILLER

At McGill University, Abraham Fuks is the erstwhile Chair of the Board of Curators of the Osler Library; Donald Boudreau is Director of the Physicianship Program and the Osler Fellows Program; and Pamela Miller is the History of Medicine Librarian.

Sir William Osler is the eternal “complete” doctor who is the hero and idyllic role model of clinicians everywhere. His ideas on clinical medicine have become aphorisms of daily practice and his famous text book was the vade-mecum for generations of medical students and practitioners. Yet, the justly famed *Principles and Practice of Medicine* has no sections dedicated to the clinical method and the bedside practice of medicine. The Osler text has little to say on the clinical examination, comportment of the physician, doctor-patient interactions, bedside skills and the requisite characteristics of the doctor. Yet, judging from the almost hagiographical contemporary descriptions, Osler embraced these and related themes in his daily life and work.

A clearer insight to Osler's ideas on the clinical method can be gained from his essays and speeches. His unpublished 1885 welcoming address (copies of which were distributed to the members of the AOS at the 2007 meeting) to the students of the entering class at Philadelphia provides a special opportunity to appreciate Osler's view of the elements necessary to medical education and training. His advice on the clinical examination is the following: “*begin with the history of the patient or what he can tell you himself about his ailment, the mode of its onset, the duration and the chief features. By means of intelligent questions you are enabled to get additional knowledge and sort out the important facts from the confused mass of information which a patient will usually give in his statement of his own case. You next proceed to the physical examination by means of which you ascertain the existence of disease, its extent & the localities affected. In this part of your work learn early to adopt a systematic method.*” Referring to an admonition often heard in communication skills courses today, Osler counseled the students, “*In the lecture theatre, better than on the ward before patients, we can speak freely of the probabilities in a case...*”.

There is no doubt that Osler understood the importance of skills and attitudes in medicine in addition to the acquisition of knowledge upon which his textbook is founded. Perhaps Osler believed that behaviours are best taught by clinical experience and cannot be learnt from textbooks. The reason for the “missing chapter” may be reflected in two further Oslerian aphorisms. Once again from the 1885 oration we learn that “*The knowledge which a man can use is the only real knowledge, the only knowledge that has life and growth in it and converts itself into practical power*”; and from a 1901 manuscript in *JAMA*, “*...the principal thing—the wisdom gained from experience, not simply knowledge gained from books, and the clinical sagacity which may make him a helpful, sensible Doctor.*”

Learning objectives:

1. Contrast Osler's *Principles and Practice of Medicine* with modern textbooks.
2. Contrast Osler's Textbook with his 1885 address.
3. Discuss the key features of Osler's medical pedagogy.

The Sacred Cord: Osler, Antivivisectionism, and the Ethics of Human Subjects Research

MARGARET P. WARDLAW AND KATIE KUCERA

Margaret P. Wardlaw is an MD/PhD student currently doing graduate work at the Institute for Medical Humanities at the University of Texas Medical Branch at Galveston, where she also directs the student-run free clinic. Katie Kucera is a second-year student at UTMB and is involved in SIGHT (Students Improving Global Health Together). Both are recipients of John P. McGovern Student Scholarships in Oslerian Medicine.

The history of research ethics is often recounted beginning in 1947 with the Nuremberg Code. In actuality, the controversy surrounding human subjects research was in full force during the Progressive era at the turn of the nineteenth century. Nineteenth-century opposition to unethical human experimentation was closely tied to the Victorian antivivisectionist movement. Early animal rights activists feared that the rising trend of animal experimentation would become a stepping-stone for inhumane research on humans. In response to the infamous yellow fever experiments by Giuseppe Sanarelli, the American Humane Association began a campaign to prevent “human vivisection,” a term that came to represent all human subjects research. William Osler testified in the subsequent 1900 Vivisection hearing before the Senate Committee. Osler strongly opposed the antivivisectionist, believing that animal research was essential for medical progress, and that negative antivivisectionist representations of physicians were an attempt to undermine the legitimacy of his profession. Osler also opposed unethical research on humans. He wrote, “We have no right to use patients entrusted to our care for the purpose of experimentation unless direct benefit to the individual is likely to follow. Once this limit is transgressed, the sacred cord which binds physician and patient snaps instantly.” Osler’s views on animal and human experimentation place him in a tradition of clinical teachers who realized the importance of clinical science to the practice of medicine, but whose main concern was direct patient care.

Learning Objectives:

1. Describe William Osler and William Henry Welch’s testimony at the 1900 Vivisection hearing before the Senate Committee.
2. Contextualize Osler’s views on animal and human experimentation within the broader antivivisectionist movement and other late nineteenth-century progressive movements.
3. Explain how Osler’s emphasis on clinical teaching and belief that medicine is “an art based in science” contributed to his views on human experimentation.

Dramatic Personalities: A Centenary Meta-Analysis of the Typhoid Vaccine Controversy

VIVIAN McALISTER

Like Almroth Wright, Vivian McAlister is a graduate of Trinity College Dublin. He is a professor in the Department of Surgery at the University of Western Ontario. He is interested in the history of surgery in Canada.

In November 1914, Osler addressed The Society of Tropical Medicine and Hygiene on the topic of typhoid fever. He regarded it as an important contribution to the war effort. A public version of the talk was published as a penny pamphlet with the goal of encouraging universal vaccination among the troops. In wars past, enteric fever had killed many times the number of soldiers lost to enemy action. Vaccination against typhoid was discovered in 1896 by Almroth Wright. Within a few years, he was able to supply a remarkable amount of vaccine to the British Army, of whom about 10% were vaccinated in the Boer Wars. Reports from various units were published in *The Lancet* and *British Medical Journal* (BMJ). Wright estimated a 70% reduction in mortality with vaccination. The army was advised to adopt universal vaccination in 1902. So why was Osler's effort so important?

Elements within the army were alarmed at the thought of compulsory vaccination. Elsewhere vaccination had been clustered with vivisection in a movement opposing medical experimentation. Karl Pearson, today considered the father of biostatistics, was recruited to review Wright's data. Applying his theory of correlation in a 1906 BMJ article, Pearson declared the role of vaccination to be weak and he advised further study. Wright's rebuttal was the start of a furious public exchange with Pearson which lasted rest of the year. The debate might have been dismissed as a tiff between rivals, were it not for George Bernard Shaw. Wright was portrayed as a scheming doctor with a God-complex in Shaw's 1906 play *The Doctor's Dilemma*. In case the audience missed the point, a long prologue to the 1911 edition of the play stressed the importance of Pearsonian statistics in medicine. Opinion, at that time and since, firmly sided with Pearson. Osler skillfully avoided acrimony by applauding Pearson's 'new iatro-mathematical school' at the same time as declaring Wright's observations to be sound. He added American and European data to support Wright. Osler observed that bullets killed 8,000 troops in the Boer Wars while 14,000 fell to bacilli. 'It is bitter enough to lose thousands of our young men in a hideous war, but it adds terribly to the tragedy to think that more than one-half of the losses may be due to preventable disease'. Arthur Conan Doyle, who had used Wright's vaccine as a physician in the Boer War, also defended vaccination against the Anti-vivisection Movement. The campaign succeeded as voluntary vaccination rates approached 100% and deaths of typhoid fever diminished to insignificance in World War I.

The lives of these extraordinary *dramatis personae* constantly intersected. Sharing origins and education, they reveled in debate regardless of its subject. Their wonderful contributions continue to inform and entertain us. But who was correct (statistically) – Pearson or Wright? With Dr. MA Rockx, I am applying the principles of the Cochrane Collaboration to review the field trials of typhoid vaccination. Results of a centenary meta-analysis will be reported in the presentation.

Learning objectives:

1. Describe the elements of typhoid vaccination.
2. Explain in general terms the technique of meta-analysis.
3. Name at least three personalities involved in the controversy that surrounded the development of the typhoid vaccine.

From Bizarre Experiments to Informed Consent

THOMAS G. BENEDEK

Thomas G. Benedek is professor of medicine (rheumatology) emeritus at the University of Pittsburgh School of Medicine and still teaches history of medicine in the Honors College and the School of Medicine. He is a past president of the American Association for the History of Medicine.

A dispute arose in mid-19th century whether any but the primary phase of syphilis is contagious. Franz von Rinecker (1811-1883), professor of medicine in Würzburg, decided in 1851 to test the truth of the opinion that secondary syphilis is not contagious. Rinecker's sources were a syphilitic infant that died after five weeks while in the care of a healthy young woman who soon showed signs of syphilis. Exp. 1 & 2. A blister was raised on an arm of two young volunteer physicians, and secretions from one of the baby's skin lesions were applied to the blister base. Syphilis developed in both volunteers. Exp. 3. An institutionalized disabled boy had blister secretions from case 2 applied to the blister base on his back. There was no reaction. The faculty senate charged Rinecker with "negligent injury" of #1; #2 was not considered because he had left the country; #3 was not injured. "Extenuating circumstances" resulted in that he was only instructed not to perform clinical experiments without legal authorization.

Albert Neisser (1855-1916), professor of dermatology-venereology at Breslau, was convinced that mercurial treatments of syphilis were at best bacteriostatic and that therefore serologic approaches to eradicate the pathogen were justified. Between February and June 1892 he administered cell-free serum from patients with late syphilis to 28 syphilitic patients. However, symptoms were not altered and the therapeutic results "should be considered absolutely negative." During the same time he gave a subcutaneous injection of serum from cases of early syphilis to three hospitalized children and a young woman with gonorrhea. None developed syphilis. Before these observations were completed, four more non-syphilitic subjects were selected. These were prostitutes who had either gonorrhea or chancroid. Could they be immunized against syphilis? From 4 cc. to 100 cc. of serum from cases of late syphilis were administered intravenously. They did not remain hospitalized and all became syphilitic. In 1898 the report of these experiments was included in a long review about the serologic treatment of syphilis. A few months later a Munich newspaper criticized these experiments. This led to a lengthy official investigation in 1900. The immediate result was a fine of 300 Marks and a reprimand for having proceeded "without the consent of these persons or of their legal representatives." However, hostile publicity in the public press led the Prussian parliament in December 1900 to enact the first regulations regarding informed consent in clinical research.

Learning Objectives:

1. Explain the concept of vaccination as applied to syphilis.
2. Describe the design fallacies of the experiments of Rinecker and Neisser.
3. Discuss the relationship of Neisser's experiments to consent legislation.

The UMDNJ Debacle: A Scandal in Medical Academia

ALLEN B. WEISSE

Allen B. Weisse is a cardiologist and former professor of medicine at the New Jersey Medical School. His professional interests now involve primarily medical history and related topics. His latest book, Lessons in Mortality. Doctors and Patients Struggling Together, was published in 2006.

The University of Medicine and Dentistry of New Jersey (UMDNJ) is purported to be the largest free standing institution of its kind within the United States. It was therefore of considerable concern when in 2005 the *Newark Star-Ledger* began a remarkable series of investigative reports about disturbing irregularities at the medical behemoth. Included among these were hundreds of millions of dollars in awarded no-bid contracts; large sums paid to politically connected individuals for unperformed services; exorbitant limousine-connected expenditures; over billing of Medicare and Medicaid possibly amounting to tens of millions of dollars; possible conflicts of interests among UMDNJ trustee board members with financial ties to contractors doing business with the university; and payment of local cardiologists appointed as faculty members with no service required in exchange for referral of patients to University Hospital's cardiac surgery program.

An historical review from the beginnings of the institution as a church-sponsored medical and dental school in Jersey City in 1954 (Seton Hall College of Medicine and Dentistry) to its present status as a health care giant in Newark reveals the intrusion of politics, not all of it ethical, throughout its various transformations. Failures in proper management such as those exposed at UMDNJ are not limited to New Jersey or to health care institutions. Rather they are part of an endemic abuse of power and privilege among a "supraculture" involving the higher echelons at other educational, business and governmental institutions as well. There are lessons to be learned from the UMDNJ experience, but it is questionable as to whether or not they will be absorbed given the current organization of such institutions at the top and the milieu of unrestrained greed, overreaching and other abuses among those entrusted with such positions of authority.

Learning Objectives:

1. Discuss the role of politics in the running of educational and public service institutions.
2. Be able to recognize the flaws in current governance in such institutions.
3. Review the need for constant oversight at such institutions.

Where Have Manners Gone?

BARRY D. SILVERMAN

Barry D. Silverman is a practicing cardiologist at Northside Hospital, Atlanta, Georgia, where he has also served as Director of Medical Education and Chief of Cardiology.

Today physicians are often accused of arrogance, disrespect, and poor manners at the bedside. Behavior and manners were essential elements of the medical curriculum from the Greeks to the nineteenth century. However, etiquette has completely disappeared from the modern curriculum and all references to etiquette were deleted from the AMA Code of Ethics. Why has this occurred and what role did Osler play in this change?

The Greeks considered physician conduct an important element of patient care. The Hippocratic Corpus includes many references to physician behavior. Attention was given to dress, bedside manners, and personal moral conduct. The early Christian monks incorporated the Greek concepts of decorum and added charity to their care of the ill. In the Renaissance, there was the beginning of new discoveries, science in medicine, and specialized training. Bedside manners and etiquette changed from easing the patient's anxiety to enhancing the prestige and position of the physician.

Physician conduct in the seventeenth and eighteenth centuries was often quarrelsome, disruptive, rude, and unconcerned about patient welfare. In 1772, John Gregory began to teach the importance of physician conduct at Edinburgh based on the ethics of beneficence and justice. His teaching influenced Thomas Percival, who, in response to arguments about physician privilege that disrupted Manchester Infirmary in 1785 wrote *Medical Ethics, A Guide to the Conduct of Physicians*. In the 1840s, when American medicine was beset by a similar crisis in medicine, the founders of the American Medical Association drew from Thomas Percival's *Medical Ethics* to write the first code of behavior for physicians.

The "Code" was soon accused of promoting monopolistic elitism. Victor Vaughn, dean at the University of Michigan, addressed this concern in letters to prominent American physicians. Osler responded to Vaughn in 1895 and further expanded his opinion in his famous address "Chauvinism in Medicine" in 1902. Osler believed that science was the foundation of medicine and could speak for itself. Nevertheless, he encouraged physicians to behave like gentlemen.

Enter Dr. House, TV's popular physician and antihero. He is a physician who is unkempt, rude, and disrespectful. Yet his brilliant scientific knowledge solves the dilemma of the patient's illness. In our pluralistic, egalitarian, participatory society Osler's concept of a "Gentleman" appears no longer relevant and all that is left in medicine is the truth of science.

Learning Objectives:

1. Define the role of medical etiquette in the classical period.
2. Explain Osler's attitude concerning the rules of behavior in the AMA "Code of Ethics".
3. Examine the role of popular culture on physician bedside manners.

Six Minutes! Wilfred Bigelow, F. John Lewis, Henry Swan, and the First Open Heart Surgery Using Hypothermia

DAVID K. C. COOPER

David Cooper, Professor of Surgery at the University of Pittsburgh, has spent his career mainly in cardiac transplantation and related research. He is currently seeking a publisher for his book on the surgeons who developed heart surgery.

Bill Bigelow (1913-2005) was educated at the University of Toronto. During WWII he had the idea that hypothermia might save an ischemic limb. When at Johns Hopkins after the war, he watched Alfred Blalock perform his blue baby operations, but realized that to cure or correct most heart conditions would not be possible unless the circulation could be stopped and an intra-cardiac procedure carried out under direct vision. One night he woke with a 'Eureka!' moment—if he cooled the whole body to reduce its oxygen requirements, interruption of the circulation and opening of the heart would be possible. He returned to Toronto and developed this approach in the experimental laboratory. When the heart was cooled to approximately 22°C, it stopped beating, but Bigelow found that applying an electrical impulse maintained the beat; this was one of the early steps in the development of the cardiac pacemaker. In order to achieve deep hypothermia (cooling <25°C), he decided to study hibernation, using the groundhog as his animal model. When the groundhog was cooled to 3°C, the circulation stopped, and the heart could be opened for two hours with no ill effects. His group isolated an extract from the groundhog's 'brown fat' that they called 'hibernin', but found this was a contaminant. He was unsuccessful in determining the basis of hibernation.

Before Bigelow could apply hypothermia clinically, his work was taken up by F. John Lewis and Henry Swan. After WWII experience in Europe, Lewis (1916-1993) trained in the innovative University of Minnesota School of Surgery under Owen Wangensteen. After extensive laboratory studies, he carried out the first open heart operation (with the aid of hypothermia) in a five year-old girl on September 2, 1952. She had an atrial septal defect, which was successfully closed. After being anesthetized, she was wrapped in a refrigerated blanket until, after two hours, her body temperature had fallen to 28°C. At this point, the operation was begun. With the brain relatively protected by the cold temperature, Lewis knew that he had approximately six minutes to do what he needed inside the heart. To rewarm her, she was placed in a bath of hot water (45°C). After 35 minutes, her temperature had risen to 36°C, at which time she was removed from the bath. She made an uneventful recovery, assuring Lewis of immortality in the history of medicine. Subsequently, however, Lewis made some poor career choices, and dropped out of the newly developing field of cardiac surgery entirely. Disenchanted with medicine, he retired at age 59 and moved to California, where he spent his time in a number of unfruitful pursuits. He received virtually no public or professional recognition for his contribution to medicine.

Henry Swan (1913-1996) soon published the first series of open-heart procedures ever carried out. He had had an illustrious career as a student at Harvard Medical School, where he was top of his class, and then trained in pediatric surgery at Boston Children's Hospital under Robert Gross. After extensive surgical experience in Europe, including Utah Beach on the day after D-Day, he became the first academic surgeon in Denver, where he published an initial series of 13 patients undergoing open heart operations, with one death. Like Bigelow, he was intrigued by the effect of hypothermia and investigated the lung fish as this species is able to lower its metabolic rate without cooling, and survive without eating or drinking for 6 to 8 months. Like Bigelow, he failed to find the secret of his experimental animals. Subsequently, to some extent Swan's life disintegrated, and he made no further major contributions to surgery.

After providing surgeons an entry into the heart for the first time during the 1950s, hypothermia was steadily replaced by the introduction of the heart-lung machine.

Learning objectives:

1. Describe in general the physiology of total body hypothermia and its role in the introduction of open heart surgery.
2. Explain how total body hypothermia allowed the correction of simple congenital cardiac abnormalities.
3. Discuss the personal skills and circumstances that allowed Bigelow, Lewis, and Swan to make their respective surgical advances.

Ophthalmology and the History of Penicillin

JOHN D. BULLOCK

John Bullock is formerly Professor and Chair of Ophthalmology, Associate Professor of Microbiology and Immunology, and The Brage Golding Distinguished Professor of Research at Wright State University in Dayton, OH. Following a career change during which he received his MPH degree from the Harvard School of Public Health, he is now an infectious disease epidemiologist, Clinical Professor of Community Health, and Professor of Mathematics and Statistics at Wright State University.

The discovery of penicillin (PCN) is one of the most fascinating stories in medical history. What is almost universally unappreciated, however, are the important contributions to the development of PCN made by ophthalmology and ophthalmologists. Alexander Fleming's older half-brother, Robert, an ophthalmologist, was the person who advised him to study medicine. Fleming discovered lysozyme's presence in tears and recognized the same antibacterial effect (lysis) of PCN on *Staphylococcus aureus*. Fleming proved the non-irritancy of crude PCN by irrigating it into the human conjunctiva every hour for 24 hours. On April 10, 1929, the first extraction of highly concentrated PCN was accomplished by a future ophthalmologist, Frederick Ridley. In 1930, the first clinical successes of crude PCN, grown by Cecil Paine, a pathologist, and administered to newborn infants with ophthalmia neonatorum by Albert Nutt, an ophthalmologist, were documented. The first instance of a presumed penicillin-resistant staphylococcal organism occurred in an ocular infection, thus anticipating Joshua Lederberg's hypothesis that some bacteria are genetically resistant to penicillin (or other antibiotics) and had possessed that trait for eons. The first use of PCN for a post-traumatic infection was for an intraocular foreign body. Fleming's only cure with crude PCN was in a patient with pneumococcal conjunctivitis. On October 16, 1940, Martin Dawson of Columbia University gave the first ever injection of PCN, to a patient with subacute bacterial endocarditis, presumably also with retinal Roth's spots. On February 12, 1941, the first use of PCN by Howard Florey and Ernst Chain was for a patient at Oxford with endophthalmitis / orbital cellulitis. Six of the ten cases in their originally reported series were ophthalmic patients. And, in its first spectacular life-saving cure, PCN was co-given at Yale by a future ophthalmologist, Rocko Fasanella. In conclusion, Fleming's discovery of penicillin was one of the defining moments of the twentieth century and the contributions of ophthalmology to this endeavor were highly significant.

Learning Objectives:

1. Explain the importance of ophthalmology to the development of penicillin.
2. Discuss the first therapeutic use of penicillin.
3. Explain how a refractory eye infection verified the Lederberg hypothesis.

Carl August Langenbuch and the First Cholecystectomy

C. JOAN RICHARDSON

Joan Richardson is Professor of Pediatrics and Chief of Neonatology at UTMB in Galveston. She is a scholar in the John P. McGovern Academy of Oslerian Medicine.

Cholecystectomy is one of the most common surgeries performed in the world today. However, it has not always been so, and for many centuries humanity suffered pain, incapacitation, and death due to cholelithiasis and cholecystitis. It was not until 1882 when Carl August Langenbuch successfully performed the first cholecystectomy, surgically removing the diseased gallbladder of a man who had this painful ailment for years. This heralded the beginning of a new age in biliary tract surgery.

Carl Johann August Langenbuch (1846-1901) studied medicine at the University of Kiel and did his surgical training with Max Wilms in the Bethanien Krankenhaus. In 1873, he was appointed director of the Lazarus Krankenhaus in Berlin. His reputation quickly grew, and his interests were diverse, including laryngectomy, nephrectomy, splenectomy, thoracotomy, and arthrotomy. Creative, daring, and scientific in his approach, he gained recognition as a reliable, thorough physician and an innovative surgeon.

By 1882, following years of watching patients suffer and often die due to complications of cholecystitis, Langenbuch turned his attention to the gallbladder. Heretofore, operations on the gallbladder had consisted only of stone removal (cholecystostomy), abscess drainage, or creation of cholecystic fistulas.

Following animal experimentation and studies on human cadavers, he became convinced that removal of the gallbladder was technically possible and the only way to affect a permanent cure. On July 15, 1882, he performed the first cholecystectomy. The patient, a 43 year old man with recurrent biliary colic, jaundice, and weight loss, was purged for 5 days and then delivered of a thickened gallbladder containing 2 small cholesterol stones. On the first postoperative day, the patient smoked a cigar, professed hunger and was fed. He ambulated 12 days after surgery and was discharged 7 weeks postoperatively.

By 1889, Langenbuch had performed 24 cholecystectomies and had demonstrated the feasibility of the operation. He believed the gallbladder should be removed, not because it contains stones, but because it forms them. When the first and second volumes of his book, *Surgery of the Liver and Gallbladder*, were published in 1894 and 1896, his reputation was cemented. By the turn of the century, it was well established that cholecystectomy could provide permanent relief from pain, whereas cholecystostomy resulted in a permanent fistula without a pain free state.

Langenbuch's open cholecystectomy remained the gold standard for over a century until 1987, when the first laparoscopic cholecystectomy was performed. Carl Langenbuch was a master surgeon of the hepatobiliary system. He was an innovative medical pioneer who made significant contributions to modern surgery.

Learning Objectives:

1. List the early treatments for cholecystitis.
2. List the complications of these treatments.
3. Describe the first cholecystectomy.

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