

**42nd Annual Meeting  
of the  
AMERICAN OSLER SOCIETY**



**Sunday, April 22 - Wednesday, April 25, 2012**

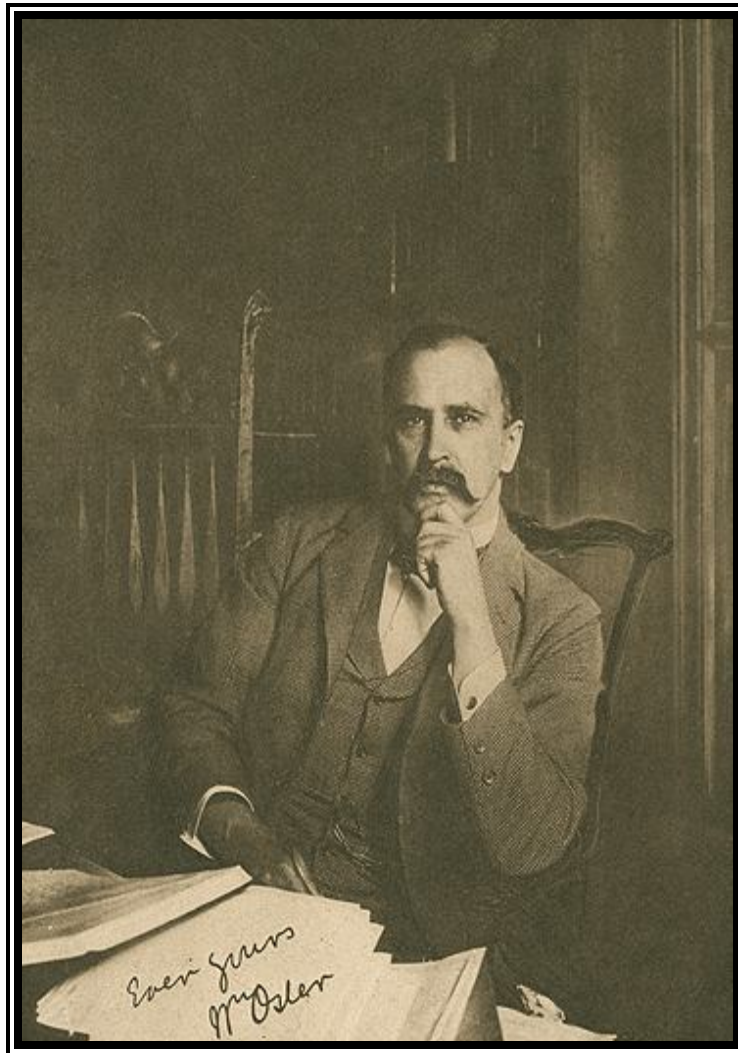
**The Carolina Inn**

**at**

**The First State University  
Chapel Hill, North Carolina**

## On the Cover

The central picture is of Sir William Osler in his maturity. Surrounding Osler and reflecting his wide impact are images of North Carolina connections to Osler. The upper part of the page presents icons of two major North Carolina educational institutions. On the left is the "Old Well", serving originally as the main source of water for the few early students of the University of North Carolina-Chapel Hill in 1795, and a symbol of the university. On the right is the famous Duke Chapel, part of the splendid Gothic campus complex of Duke University in Durham. The lower part of the page is devoted to the two main personal relationships between Osler and these two universities. On the left is William deBerniere MacNider MD, who served as a faculty member at the University of North Carolina for 51 years. He spent the summer of 1904 working in the wards and clinics with Sir William in Baltimore. On the right is Wilburt C. Davison MD, first Dean at the Duke University School of Medicine. He knew Osler from his time at Oxford as a Rhodes scholar during World War I.



*Photo courtesy of Osler Library of the History of Medicine – McGill University*

Portrait of William Osler, circa 1889-1905

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## ***Course Objectives***

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Upon conclusion of this program, participants should be able to:

- Describe new research findings in the history of medicine.
- Outline the evolution of medicine in a particular disease.
- List professional contributions made by others in medicine.

## ***Intended Audience***

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The target audience includes physicians who research and write on a range of issues. Attendees will acknowledge the diversity of topics discussed and the spectrum of research techniques employed to investigate hypotheses, frame arguments, and draw conclusions. The themes addressed are comprehensible to all health care providers, making the content and conclusions accessible to the participants regardless of their main professional identity.

## ***CME Accreditation and Designation***

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This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Nevada State Medical Association through the joint sponsorship of Children's Heart Center-Nevada and Children's Heart Foundation. Children's Heart Center-Nevada is accredited by the Nevada State Medical Association to provide continuing medical education for physicians.

Children's Heart Center-Nevada designates this educational activity for a maximum of 15.75 AMA PRA Category 1 Credits™. Physicians should claim only credit commensurate with the extent of their participation in the educational activity.

## ***Appreciative Acknowledgements***

### **Local Arrangements Committee**

Conrad Fulkerson  
Mike Jones  
Frank Neelon

### **Program Committee**

Sandra Moss, chair  
Denny Bastron  
Mike Jones  
Philip Leon  
Pamela Miller  
Paul Mueller  
Preston Reynolds

# Program Schedule

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## Sunday, April 22, 2012

- 2:00 – 6:00 p.m.      Registration  
*Colonnade*
- 3:00 – 5:00 p.m.      Recitations  
Moderator: Frank Neelon  
*Hill Ballroom North*
- 6:00 – 7:00 p.m.      Past-Presidents Dinner Meeting  
*North Parlor*
- 7:00 – 9:00 p.m.      Board of Governors Meeting  
*Hill Ballroom South*

## Monday, April 23, 2012

- 7:00 – 8:00 a.m.      Registration & Continental Breakfast  
*Colonnade*
- 8:00 a.m. – 5:30 p.m. Second Annual Art Exhibit  
*North Parlor*
- 7:50 a.m.              Michael Bliss, AOS President  
Welcome  
*Hill Ballroom*
- Mike Jones, Local Arrangements Committee Representative  
Announcements
- General Session, Michael Bliss, Moderator**  
*Hill Ballroom*
- 8:00 a.m.              CHARLES S. BRYAN (page 20)  
"The Cheerful Haunts" - John Armstrong, Physician-Poet
- 8:20 a.m.              JOHN W. K. WARD (page 61)  
Medicine in the Life and Work of Sir Walter Scott (1771-1832)
- 8:40 a.m.              THOMAS G. BENEDEK (page 15)  
The Malpractice Litigation of Dr. Hübner and the Epidemiology of  
Vaccination Syphilis

# Program Schedule

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## Monday, April 23, 2012 (continued)

- 9:00 a.m. ROBERT R. NESBIT, JR. (page 42)  
Brain Death and the Harvard Ad Hoc Committee
- 9:20 a.m. WILLIAM SODEMAN, JR. & WILLIAM SODEMAN, III (page 52)  
William Hillebrand, M.D. Master Botanist of the Hawaiian Islands
- 9:40 a.m. REFRESHMENT BREAK  
*Colonnade*
- William B. Bean Student Research Award Lecture***
- 10:00 a.m. MARGARET OLSZEWSKI (page 43)  
One Man's Passion for Anatomy: J.C.B. Grant and the Founding of an Anatomical Museum
- 10:20 a.m. ROBERT A. KYLE (page 32)  
Jan Gosta Waldenström – Why Not a Nobel Prize?
- 10:40 a.m. JANET MURRAY (page 39)  
Edith Cavell Revisited
- The John P. McGovern Award Lectureship***
- 11:00 a.m. C. DAVID NAYLOR (page 41)  
The Enduring Narrative of Clinical Medicine
- 12:00 p.m. LUNCHEON  
*Old Wing Room*
- General Session, Pamela Miller, Moderator**  
*Hill Ballroom*
- 1:00 p.m. T. JOCK MURRAY (page 40)  
Osler and "The Greatest Medical Treatise Written by a Layman"
- 1:20 p.m. SCOTT H. PODOLSKY (page 44)  
The Evolution of the Medical Journal in the United States: Origins, Roles, and Challenges
- 1:40 p.m. HERBERT M. SWICK (page 56)  
Surviving Bataan: The Art of Ben Steele



# Program Schedule

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## Monday, April 23, 2012 (continued)

- 2:00 p.m.            DAVID K. C. COOPER (page 21)  
Ethical Concerns Relating to Clinical Trials of Cross-Species Organ  
Transplantation
- 2:20 p.m.            C. JOAN RICHARDSON (page 47)  
Abraham Jacobi and William Osler: Their Contributions to the  
Organization of Pediatrics as a Specialty
- William B. Bean Student Research Award Lecture**
- 2:40 p.m.            JOHN STROH (page 54)  
The English Reformation and the Birth of London's Royal Hospitals
- 3:00 p.m.            REFRESHMENT BREAK  
*Colonnade*
- 3:20 p.m.            CHRISTOPHER J. BOES (page 18)  
Osler and Gowers: Good Friends "All Through"
- 3:40 p.m.            BARRY D. SILVERMANN (page 51)  
High Blood Pressure: Deciphering the Pulse
- 4:00 p.m.            ERIC L. MATTESON (page 36)  
Adolf Kussmaul and His Relevance to Medicine in the 21<sup>st</sup> Century
- 4:20 p.m.            MICHAEL E. MORAN (page 38)  
Pamphleteer, Politics, Palsy & Poppuns: Life and Near Death of James  
Parkinson
- 4:40 p.m.            MARGARET P. WARDLAW (page 62)  
Osler's Martha: The Role of the Doctor's Wife in Historical and  
Contemporary Medical Practice
- 5:00 P.M.            ADJOURN
- 6:30 p.m.            Barbecue and Blue Grass Music  
*Anne Hill Courtyard (weather permitting) or Old Wing Room*

# Program Schedule

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## Tuesday, April 24, 2012

- 7:00 – 8:00 a.m. Registration & Continental Breakfast  
*Colonnade*
- 7:00 a.m. – Noon Second Annual Art Exhibit  
*North Parlor*
- Concurrent Session A, Sandra Moss, Moderator**  
*Hill Ballroom A Side*
- 8:00 a.m. JAMES B. YOUNG & LEONARD CALABRESE (page 64)  
Paradigm Shifts and Hubris in Medicine: The Death of Garfield - Where Was Osler?
- 8:20 a.m. TONSE N. K. RAJU (page 45)  
Little on *Little's Disease* and 150 Years of Catastrophic Misunderstanding
- 8:40 a.m. ROBERT I. LEVY (page 35)  
William A. Marburg's Contribution to Sir William Osler's Love for Books and Libraries
- 9:00 a.m. RICHARD J. KAHN (page 28)  
*Philobiblon*, 24 Jan. 1345 and the de Burians of Bangor, Maine, 1901-07
- 9:20 a.m. MARVIN J. STONE (page 53)  
Osler and Clinical Microscopy
- 9:40 a.m. REFRESHMENT BREAK  
*Colonnade*
- 10:00 a.m. KATHERINE M. KEIRNS (page 29)  
Magic, Heroism and Realism on Medical Television, 1950s to the Present
- 10:20 a.m. DENNIS M. KRATZ (page 30)  
Bridging the Science-Humanities Gap
- 10:40 a.m. KENNETH G. SWAN (page 55)  
The Chain Saw During the American Civil War
- 11:00 a.m. W. BRYANT BOUTWELL (page 19)  
The Making of an Oslerian – The Early Life of John P. McGovern, M.D.
- 11:20 a.m. J. MARIO MOLINA (page 37)  
William Osler, Samuel A Fisk, and the American Climatological Association

# Program Schedule

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## Tuesday, April 24, 2012 (continued)

### Concurrent Session B, Preston Reynolds, Moderator *Hill Ballroom B Side*

- 8:00 a.m. GEORGE SARKA (page 50)  
The Nexus between Sir William Osler and 'Fat Joe'; The Pickwickian Syndrome and Sleeping Beauty AKA 'The Big Chief'
- 8:20 a.m. JACK B. ALPERIN (page 12)  
Hemorrhagic Disease of the Newborn: Discovery, Treatment, and Prevention
- 8:40 a.m. STEPHEN C. ACHUFF (page 11)  
Where Osler wrote *The Principles and Practice of Medicine* (first edition, 1892)
- 9:00 a.m. CHARLES AMBROSE (page 13)  
Medicus Petrus Hispanus (Peter of Spain): A XIII Century Pope and Author of a Medieval Sex Guide
- 9:20 a.m. MILTON G. ROXANAS (page 49)  
Laennec, Osler and the Glass Stethoscope
- 9:40 a.m. REFRESHMENT BREAK  
*Colonnade*
- 10:00 a.m. JOHN AND KATIE RAY (page 46)  
Physician Civil Disobedience: A Historical Perspective on Current Controversy
- 10:20 a.m. FAUSTINO BERNADETT, JR. (page 17)  
William Osler Defines a Century of Medical Education
- 10:40 a.m. JOSEPH B. VANDERVEER, JR. (page 59)  
"Beauty From Ashes": Life And Medical Care In The Camps
- 11:00 a.m. GORDON FRIERSON (page 24)  
Osler, Yellow Fever, and Human Experimentation

# Program Schedule

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## Tuesday, April 24, 2012 (continued)

- 11:45 a.m.            PICK UP BOXED LUNCH  
*Old Well Room*  
BOARD BUS AND TRAVEL TO DUKE
- 1:00 p.m.            TOUR & VIDEO
- Symposium on the History of Medicine in the Southern States  
Philip Leon, Charleston, SC: Honorary Moderator in Memoriam  
Charles Bryan, Moderator**
- 3:00 p.m.            J. MICHAEL FULLER (page 26)  
Tinsley Harrison, Osler, and the Other Textbook of Medicine
- 3:20 p.m.            S. ROBERT LATHAN (page 33)  
Thomas Wolfe: Chapel Hill Days and Death From Tuberculosis
- 3:40 p.m.            GOTTLIEB C. FRIESINGER (page 25)  
The Vanderbilt-Johns Hopkins Connection: Osler's Long Shadow
- 4:00 p.m.            CHARLES S. ROBERTS (page 48)  
Dr. Hunter Holmes McGuire (1835-1900): Virginia Surgeon
- 4:20 p.m.            MICHAEL C. TROTTER (page 57)  
The Association of Medical Officers of the Army and Navy of the  
Confederacy, 1898-1917: The Last Repository of Confederate Medicine
- 4:40 p.m.            ADJOURN  
BOARD BUS TO RETURN TO CHAPEL HILL
- 6:00 – 7:00 p.m.    SOCIAL HOUR  
*Old Wing Room*
- 7:00 – 9:00 p.m.    BANQUET  
*Old Wing Room*
- PRESIDENT'S ADDRESS – MICHAEL BLISS  
Medical Exceptionalism

# Program Schedule

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## Wednesday, April 25, 2012

- 7:00 – 8:00 a.m. Registration & Continental Breakfast  
*Colonnade*
- 7.30-8.30 a.m. Annual Business Meeting  
*Hill Ballroom*
- General Session, Herbert Swick, Moderator**  
*Hill Ballroom*
- 8.30 a.m. JOSEPH W. LELLA (page 34)  
Osler and Bethune: Similar in their Differences
- 8:50 a.m. SARA E. WALKER (page 60)  
Michelangelo's Knee: Signs of Disease in Raphael's Figure of Heraclitus
- 9:10 a.m. JAMES R. WRIGHT, JR. (page 63)  
William Forbes - Villainous Grave Robber or Philadelphia Anatomical Hero
- 9:30 a.m. DAVID AND STEPHANIE DARROW (page 22)  
The "Most Distressing of all Human Maladies": An Applied History Approach to the Modern Treatment of Schizophrenia
- 9:50 a.m. REFRESHMENT BREAK  
*Colonnade*
- 10:00 a.m. DAVID HAMILTON (page 27)  
'Re-tuning the Harp' – The Holistic Alternative to Continuous Therapy
- 10:20 a.m. WILLIAM N. EVANS (page 23)  
John Marie Keating (1852-1893): A Life Cut Short
- 10:40 a.m. PAUL E. BERMAN (page 16)  
The Pratt Health Cottage Hospital: The World's First In-Hospital Aseptic Barrier Nursing Unit
- 11:00 a.m. IRVING KUSHNER (page 31)  
Oswald Avery, the Rockefeller Institute and the Pneumococcus
- 11:20 a.m. ROBERT P. TURK (page 58)  
Mungo Park: Surgeon and African Explorer
- 11:40 a.m. R. DENNIS BASTRON (page 14)  
America's First Family of Surgeons
- Noon ADJOURN

## **Where Osler Wrote *The Principles and Practice of Medicine* (first edition, 1892)**

Stephen C. Achuff

*Dr. Achuff, a native of St. Louis, MO, graduated from the University of Missouri School of Medicine in 1969. He has spent his entire professional career at The Johns Hopkins Hospital, apart from one year at the Royal Infirmary of Edinburgh, beginning as an intern on the Osler Medical service under Dr. A. McGehee Harvey, serving as Dr. Victor A. McKusick's first Chief Resident, training in Cardiology under Dr. Richard S. Ross, and ending as Professor of Medicine and Director of Cardiology Clinical Services from 1979 to 2004. He is now Professor Emeritus and a member of the Part-Time Clinical Faculty. Along with Dr. McKusick, he had the privilege of carrying out the conversion of the room where William Osler wrote the first edition of his textbook from a bland and undistinguished administrative office in the Department of Nursing to an 1890's-appearing sitting room replete with period furniture and tangible memorabilia of Dr. Osler's career at Hopkins beginning in 1889 up until his departure for Oxford in 1905.*

This organization is well familiar with the story of Osler writing the first edition of his *Principles and Practice of Medicine* from May, 1891 to January, 1892 on the second floor of the now Billings Administration Building, familiarly known as "The Dome," and in the sitting room of Howard A. Kelly's first Chief Resident of Gynecology, Dr. Hunter Robb. The details of this remarkably brief but extremely productive period in Osler's Hopkins career are recounted beautifully in Dr. Richard L. Golden's Presidential address to the American Osler Society May 8, 1990. While Dr. and Mrs. Osler took the bulk of their belongings to Oxford and left relatively few tangible possessions in Baltimore, several interesting pieces remained and are displayed in what is now called the "Osler Textbook Room." Among these are one of his desks, a desk chair, his stethoscope, the sterling silver loving cups presented to him and Mrs. Osler by his colleagues in honor of their marriage on May 7, 1892, and another silver loving cup from the Johns Hopkins medical students upon their departure for England in 1905. Also displayed are a 600 pound marble bust of Osler created by Hans Shuler from life but "hidden" from public viewing until 2006 because Lady Osler was embarrassed by her husband's naked chest, a photograph of the Osler's home at #1 West Franklin St. and the adjacent home at #3 occupied by the "latchkeyers" (Drs. Harvey Cushing, Thomas Futcher, and Henry Barton Jacobs), the actual latchkey given by Dr. Osler to Dr. Futcher and donated by his son and Osler's godson, the late Dr. Palmer Howard Futcher, a copy of Osler's letter to William S. Halsted describing his reasons for leaving Hopkins for the "calm and serenity" of Oxford, and much more. This presentation will be a video tour of the Osler Textbook Room with commentary on each of the items of particular interest.

Learning objectives:

1. Describe the circumstances of Osler's writing of *The Principles and Practice of Medicine*
2. Name some of the significant objects Dr. and Mrs. Osler left to Johns Hopkins when they departed Baltimore for Oxford
3. Briefly explain the influence of Osler's textbook on medicine in the 1890's and turn of the 20<sup>th</sup> century

## **Hemorrhagic Disease of the Newborn: Discovery, Treatment, and Prevention**

Jack B. Alperin

*Dr. Alperin is a Clinical Professor, Internal Medicine & Pathology, Consultant in Hematology and Transfusion Medicine, Emeritus Osler Scholar, University of Texas Medical Branch.*

For several centuries, possibly going back to biblical times, people recognized that a life-threatening bleeding disorder could occur in the first week of life. Finally, toward the end of the 19<sup>th</sup> century, a self-limiting illness called hemorrhagic disease of the newborn (HDN) was described in the medical literature. Osler mentioned it in a later edition of his textbook. Occurring in the first week of life, HDN differed clearly from hemophilia. Direct blood transfusion proved to be the first successful therapy. A breakthrough toward understanding the pathophysiology of HDN was the discovery of an associated deficiency of prothrombin, an essential component in the coagulation cascade leading to the formation of a fibrin clot. With the discovery of vitamin K and its importance in the synthesis of prothrombin, a form of therapy appeared that proved to be both curative and successful in preventing HDN.

Thus, giving a small dose of vitamin K to all neonates as soon as possible after they are born has been a standard of pediatric practice for more than half a century. By preventing HDN, vitamin K has spared countless neonates the morbidity and mortality associated with this illness. The remarkable efforts of a dedicated group of physicians and biomedical scientists, including four Nobel Prize laureates, tell the fascinating story of HDN.

Learning objectives:

1. Explain the early history of HDN and the discovery of vitamin K
2. Discuss early transfusion therapy in neonates with HDN
3. Describe the physicians and scientists who studied HDN and developed its treatment and prevention

**Medicus Petrus Hispanus (Peter of Spain):  
A XIII Century Pope and Author of a Medieval Sex Guide**

Charles Ambrose

*The author is a 1955 graduate of the Johns Hopkins Medical School. Following a residency in infectious diseases in Boston, he pursued research in cellular immunology at Harvard Medical School (1959-72) and Paris (1972-73). Currently, he is a professor in the Dept. of Microbiology, College of Medicine, University of Kentucky, Lexington and of late has published articles on Osler & other medical figures, early priority disputes in immunology, and the 5th medical school founded in the US: the Medical. Department (1799-1859) of Transylvania University, Lexington, KY.*

Petrus Hispanus (1205-1277), was the only practicing physician ever to become Pope (1276-1277). By all accounts he was an interim choice when rival French and Italian Cardinals could not elect one of their own nationality. Although not responsible for any political actions or major doctrinal decrees by the Roman Catholic Church, Petrus was famous for several centuries after his death because of his secular writings – a text on logic (*Summulae logicales*) and a handbook on medicine (*Thesaurus pauperum*) – both of which went through many editions. The latter is noteworthy because it contains two sections on coitus – how to enhance the sexual act and how to suppress sexual urges. Promoting coitus seems an odd topic for a medieval Catholic cleric and raises the question of whether the first section may have been added by a later copyist or editor. But an examination of a very early manuscript of the *Thesaurus* gives assurance that the two sexual sections were written by Petrus, probably around 1270.

Learning objectives:

1. Learn the name of the only pope to have been a practicing physician
2. Know about his main medical work, *Thesaurus pauperum*, and its sexual content
3. Be somewhat aware of thirteenth century papal history



## America's First Family of Surgeons

R. Dennis Bastron

*Denny Bastron is Professor of Anesthesiology at the University of Arizona.*

Peter Warren came to America as a young man. By 1660 he was listed as a landowner in Massachusetts. Peter's grandson Joseph, a successful farmer and respected citizen of Roxbury, married Mary Stevens, daughter of a doctor, and together they spawned a remarkable lineage of American surgeons.

Their first son, Joseph, after graduating from Harvard, apprenticed with a physician and on the basis of his skill and personality, soon became the busiest physician and surgeon in Boston, as well as a political leader. He has been credited as being the father of medical education in Massachusetts. Elected as Major General in the militia, Joseph was killed at Bunker Hill and is regarded as a hero of the Revolution.

Joseph's younger brother John followed in his footsteps as a surgeon, became the leading surgeon in Boston, established the precursor of the Harvard Medical School (HMS), and is thought to have done the first successful shoulder disarticulation in America.

John's eldest son, John Collins, followed him as Professor of Surgery at the medical school. John Collins was a founder of the Massachusetts General Hospital (MGH), the Massachusetts Medical Society, *the Boston Medical and Surgical Journal* (now known as the *New England Journal of Medicine*); presided at the first public demonstration of inhalation anesthesia; and served as Dean of the HMS.

John Collins' son Mason became a prominent surgeon pioneering in reconstructive surgery. He performed the first successful free skin graft in America. Mason's son John Collins (known as Coll), also Professor of Surgery at HMS, introduced Lister's antiseptic surgical technique to America and raised the money to build the current HMS campus as well as the Philips House building at MGH.

Coll's son John chose to teach anatomy rather than become a surgeon. He was prominent as a leader of the HMS faculty and died before finishing his atlas of anatomy. A nephew of John, Richard Warren, was a prominent Harvard cardiovascular surgeon, and Chief of the General Surgery Section at the Veterans Administration Central Office.

With the exception of the six years between John's death in 1928 and Richard's graduation in 1934, the Warren family provided leadership to Harvard Medical School and to American medicine from 1761 to 1971. The Warrens were America's first family of surgeons both chronologically and in their sphere of influence.

Learning objectives:

1. List three contributions of the Warren family to Harvard Medical School
2. Discuss contributions of the Warrens to surgical practice in North America
3. Evaluate the Warrens' contributions to New England medicine

## **The Malpractice Litigation of Dr. Hübner and the Epidemiology of Vaccination Syphilis**

Thomas G. Benedek

*Thomas G. Benedek, a graduate of the University of Chicago, is a rheumatologist and medical historian. He is Professor of Medicine Emeritus at the University of Pittsburgh School of Medicine and is a past president of the American Association for the History of Medicine.*

Dr. Georg Hübner was an experienced physician in rural Bavaria who was alleged, due to negligent vaccinations, to be responsible in 1852 for having precipitated a local epidemic of syphilis. According to the testimony and relevant law he clearly was guilty. This is the story of how the prosecution and defense arguments reflect medical and legal conflicts in the pre-bacteriologic time and resulted in two modifications of his primary conviction.

M.K., a 27 year old servant in the home of a merchant whose children may have had congenital syphilis, developed lesions of secondary syphilis in 1850-'51. She became asymptomatic after an unusually short course of anti-luetic treatment that the children also received. In March 1852 she was delivered of her second child, on whom in her first month skin lesions developed that were considered syphilitic. She was vaccinated in June and lymph from her vaccine vesicles was then used to vaccinate 13 presumably healthy infants. Syphilitic lesions developed in nine of these and they infected eight of their caretakers. Two of the 13 then became vaccine donors and infected others.

In April 1853 Hübner was sued for commission of 17 cases of negligent practice. He was sentenced to a one year imprisonment, loss of position, and costs. The first appeal resulted in increase of the sentence to two years, while a final appeal, in 1854 resulted in reduction of the incarceration to six weeks, mainly because, since only one syphilitic vaccine donor had been used, there was only one instance of malpractice.

This case provides insight into medical and legal reasoning pertaining to the diagnose ability of syphilis shortly before the advent of bacteriology. It was based on concepts of the interaction of two pathogens: syphilis and vaccinia, overconfidence in prevalent therapeutics, and the definition of pathogens: what was a "contagium" before the discovery of bacteria and did it differ from poisons?

Learning objectives:

1. Describe the prevalent method of performing vaccinations
2. List the arguments that were made as to a pathogen being a contagium or a poison
3. Discuss what component of Hübner's actions was considered the most culpable

**The Pratt Health Cottage Hospital:  
The World's First In-Hospital Aseptic Barrier Nursing Unit**

Paul E. Berman

*Dr. Paul Berman retired internist and medical historian and a member of the AAHM, AAHN and AOS.*

In 1897 the Pratt Health Cottage Hospital was constructed on the campus of Amherst College in Amherst, Massachusetts. Its goal was to provide care for students with contagious diseases. The facility had a dining room, administrative offices and a kitchen on the first floor; a five bed ward and operating room were on the second floor; the third floor was a dedicated isolation unit, the world's first in-hospital aseptic barrier nursing unit.

This unit could only be entered by a stairway at the rear of the building and was divided into three cubicles, totally separated from each other and surrounded by a balcony. Each cubicle was divided into two rooms. One was for the nurse and consisted of a bed, toilet and small kitchen while the other was for the patient. A number of years later a dumb waiter was added to the nurse's room to improve delivery of food. This design, with cubicles and balcony, was not formally recognized worldwide until the construction of an isolation unit at the Pasteur Hospital in Paris in 1901.

The contagious diseases treated in this unit were primarily of streptococcal and influenza origin. The arrangement of rooms protected the nurse from exposure to these diseases but at the same time allowed her to provide one on one nursing care. Other isolation units built in the late 19<sup>th</sup> century did not allow for the same type of close nursing involvement and were in separate buildings.

Although this unit was ideal even by today's standards, the one on one nursing in the college setting was not realistic. The hospital staff was limited to a charge nurse and two to three other trained nurses from Boston or New York who were hired during the busier months.

Utilizing the manuscript collection of the Amherst College Archives, period newspapers, personal consultations with architectural historians as well as multiple secondary sources, I explain how such an advanced design appeared in Amherst in 1897 and suggest that it is the world's first in-hospital aseptic barrier nursing unit.

Learning objectives:

1. Define aseptic barrier nursing
2. Discuss the germ theory's effect on hospital architecture
3. Explain Grancher's role in the development of aseptic barrier nursing

## William Osler Defines a Century of Medical Education

Faustino Bernadett, Jr.

*Faustino Bernadett, Jr, is a practicing physician who serves on the Foundation Board of the University of California, San Francisco, and a Commissioner of Hospitals and Healthcare Facilities for Los Angeles County.*

In 1910, after touring all 155 medical schools in the United States, Abraham Flexner concluded that Johns Hopkins was the “model for medical education” and exemplified the ideal medical school. William Osler’s scientific approach to medicine and teaching, where the “ward and the laboratory are logically from the standpoint of investigation, treatment and education inextricably intertwined” was the model to be emulated across the country.

Osler initiated and the Flexner Report led to the institutionalization of a basic framework for medical education that has changed little in over a century. Sweeping changes occurred as a result of the Flexner report, including the closure of one third of all medical schools within 10 years of its release.

The most significant changes in the structure of medical education at that time included:

1. Aptitude required for admission to medical school (a bachelor’s degree required where previously only high school graduation required)
2. Training students to think like scientists during pre-clinical years of medical school (2 years of basic science including lab, where previously only 8 months of lecture were required)
3. Supervised clinical experience (in a teaching hospital, where previously little or no clinical experience was required in medical school)
4. Instruction rendered by physician scientists who moved from the research laboratory to the bedside and back (physician scientists lectured and taught, where previously the credentials of the teachers were inconsistent)

In addition to the structure of medical education, Osler embodied the ideal social and humanistic aspects of medicine. Changes in the way medicine was taught were thought to recreate in all trained physicians a competency and dedication to the patient as the central figure in a physician’s life.

Over a century later, the Carnegie Foundation commissioned another study of medical education in the United States. A comparison of these two studies shows that the basic structure of medical education has changed little over the past 100 years. Technology and scientific understanding has dramatically increased the complexity and scope of medicine. Yet, education has not kept pace. Current teaching is challenged by maintaining the importance of compassion and the bedside experience while addressing the new complexities. What would Osler think of medical education as it is conducted today?

Learning objectives:

1. Describe the evolution of the original Flexner recommendations for education and how that has transformed education to the present day
2. Contrast medical education today as defined in the Carnegie Report to that described as the ideal in the Flexner Report
3. Discuss what Osler’s opinions of the Carnegie Report recommendations might be

## Osler and Gowers: Good Friends “All Through”

Christopher J. Boes

*Chris Boes is an Associate Professor of Neurology at the Mayo Clinic in Rochester, MN. He is a member of the Board of Governors of the American Osler Society. He is president of the Mayo Foundation History of Medicine Society, and has been the neurology residency program director for seven years.*

William Osler and William Gowers first met in 1878, when Osler was studying in London to prepare for the MRCP. In 1884, Gowers wrote Osler a letter of recommendation when Osler was being considered for a job at the University of Pennsylvania, commenting that “no English physician of the same standing had achieved a wider or higher reputation.” Osler visited Gowers often when in London, and they vacationed together in 1892. Osler dedicated his book *On Chorea and Choreiform Affections* to Gowers in 1894 (both the English and American editions), addressing himself as Gowers’ sincere friend. In the dedication, Osler noted that “to the profession of the United States and Canada you stand as the most brilliant British exponent of the complex science of neurology.” Two warm letters between Osler and Gowers exist in the Osler Library Archives, highlighting their strong friendship. Gowers’ son Ernest wrote Osler a letter after the death of his father. Referring to the relationship between William Osler and William Gowers, he noted that Osler had “indeed been a good friend to him all through.”

Osler wrote and edited the first edition of his textbook from 1890 through early 1892, and was influenced by Gowers’ *Manual of Diseases of the Nervous System*. The single volume American edition of Gowers’ *Manual* was published in 1888 (called the “Bible of Neurology”). Osler wrote a book review of this text in 1888, opining that as a neurology textbook it stood “unrivaled in any language,” and commenting that Gowers was “among the highest living authorities on all matters relating to diseases of the nervous system.” Gowers’ name was mentioned more often than any other author in the first edition of Osler’s textbook. Osler copied three tables and one figure from Gowers’ textbook (tables on vocal cord paralysis, Brown-Sequard syndrome, and spells; figure of pyramidal tract). van Gijn noted recently that Osler’s nervous system section mostly followed the outline of Gowers’ book.

In 1913, Osler wrote to Silas Weir Mitchell: “You will be sorry to hear that Gowers is very ill—his own disease, ataxic paraplegia, it looks like, & ascending, so that now there are bulbar symptoms.” Gowers described ataxic paraplegia in 1886. Critchley later disagreed with Osler’s diagnosis, stating: “At the age of sixty-two [Gowers] became so feeble from generalized cerebrovascular degeneration as to determine his retirement.” Critchley felt Gowers had generalized arteriosclerosis. One possible modern diagnosis would be vascular cognitive impairment/vascular dementia.

Osler and Gowers were close friends, and this friendship was mutually beneficial. Their personalities were quite different, but both were great writers. McHenry wrote that “as we may consider Osler the Father of Clinical Medicine, Gowers may be considered the Father of Clinical Neurology.” Osler’s neurological writings were significantly influenced by Gowers. Osler may have misdiagnosed Gowers with ataxic paraplegia, although diagnostic uncertainty remains as no autopsy was apparently performed.

Learning objectives:

1. Summarize the evidence supporting the friendship of Osler and Gowers, and outline how their friendship was mutually beneficial
2. Discuss the influence of Gowers on Osler’s neurological writings
3. List Osler’s neurological diagnoses of Gowers

## **The Making of an Oslerian – The Early Life of John P. McGovern, M.D.**

W. Bryant Boutwell

*Dr. Bryant Boutwell is the first holder of the John P. McGovern, M.D. Professorship in Oslerian Medicine at The University of Texas Medical School in Houston's Texas Medical Center. He has worked in the Texas Medical Center for more than three decades and currently teaches medical students in the UT Medical School's McGovern Center for Humanities and Ethics. In addition, he is currently writing the biography of John P. McGovern.*

John P. McGovern, M.D. (1921 – 2007) along with Dr. Alfred Henderson, launched the American Osler Society in the early 1960's. McGovern's lifelong love of everything Oslerian began when he first met Wilburt Davison, M.D., the founding dean of Duke University School of Medicine and a Rhodes Scholar who had trained with Osler in the years leading up to the United States' entry into World War I.

This presentation will provide a glimpse into the early childhood of John P. McGovern and the many influences that led to his own life in medicine and many contributions as a physician, humanist, bibliophile, student of medical history, and philanthropist. Growing up in Washington D.C. during the Great Depression, young Jack McGovern learned valuable lessons from his surgeon father, his "Granny Brown," and his successful cousin, the actress Helen Hayes (to name a few). These and many other influences on his early life prepared him well for a life in medicine which was formally launched in 1939 when he was accepted into Duke University and first shook the hand of the man who shook Osler's hand – Wilburt Davison.

The author is currently writing the biography of John P. McGovern and will share examples of early letters and other items of interest from the McGovern archives that tell the story of a young man destined for a life in medicine.

Learning objectives:

1. Examine the early life of John P. McGovern, M.D. and significant influences that shaped his character
2. Identify at least four personal traits in his early years that were the foundation for his life in medicine
3. Know at least five individuals in his life prior to attending medical school who shaped his adult success

## "The Cheerful Haunts" - John Armstrong, Physician-Poet

Charles S. Bryan

*Charles S. Bryan is Heyward Gibbes Distinguished Professor of Internal Medicine Emeritus and former chair, Department of Medicine, The University of South Carolina*

He [Caspar Wistar] is ... the very embodiment of the physician who, to paraphrase the words of Armstrong, ... "Sought the cheerful haunts of men, and mingled with the bustling crowd."

—William Osler, "The Leaven of Science" (1894)

Who was Armstrong, apparently so familiar to Osler's audience that Osler felt no need to supply a first name? What was the context of Armstrong's allusion to "the cheerful haunts," so evocative of the convivial collegiality promoted by Osler and perpetuated at the American Osler Society?

John Armstrong (1709–1779), a Scot, was the ninth graduate and first honor graduate of the then-new medical school at the University of Edinburgh. The passage in question comes from *The Art of Preserving Health*, a 1,700-line didactic poem first published in London in 1744. Capturing an apparent public need for a depiction of disease, and especially of nervous complaints, by a knowledgeable physician writing as a feeling patient, *The Art* had by 1795 gone through 13 editions and 27 impressions in London, Edinburgh, and Dublin; had been for about 20 years the only work of medicine or verse published by Benjamin Franklin in Philadelphia; had been translated into German once and into French and Italian twice; and was praised not only for its instructive value but also for its literary merit. James Boswell and David Hume agreed that it was "the most classical Poem in the English language." *The Art* was read and studied well into the nineteenth century, long after its medical advice had become obsolete. Today it is all but forgotten, even by scholars. Would Armstrong care? The answer is probably not.

Armstrong apparently had no aspirations toward literary immortality. He wrote mainly to promote his medical practice. Graduating from Edinburgh, where he had been a favorite pupil of Alexander Munro *primus*, he went directly to London and like other Scots found himself frozen out by the medical establishment. The Royal College of Physicians went so far as to forbid Scottish-trained graduates from practicing within seven miles of the Tower of London. Armstrong wrote disarmingly candid accounts of medicine to the extent that *The Art* and other works are now seen as early attempts toward the leveling of medical knowledge. Some of his work was *avant-garde*. Osler wrote of Armstrong's anonymously-published *Œconomy of Love* (1736), now described as an eighteenth-century guide to sex: "A more nauseous piece of work could not easily be found." Another work entitled *A Full View of the Diseases Incident to Children* (1742) is now recognized as the first scholarly book explicitly intended for domestic use by women practitioners. However, despite wide acclaim as a poet, Armstrong succeeded only to a modest extent as a physician. Why this was the case merits discussion and debate.

Learning objectives:

1. Identify John Armstrong in the context of the Scottish Enlightenment and the tension between Oxbridge medical graduates and Scottish medical graduates
2. Outline the content of *The Art of Preserving Health* and also the literary history of the phrase in question ("the cheerful haunts of men") and its use in discussions of melancholy (depression)
3. Discuss the pitfalls of attempting to combine a medical career with a literary career (or, more broadly, with in-depth study of the humanities)

## **Ethical Concerns Relating to Clinical Trials of Cross-Species Organ Transplantation**

David K. C. Cooper

*David Cooper, a professor of surgery at the University of Pittsburgh, has spent his career in clinical heart transplantation and related research, particularly in the field of xenotransplantation. His latest book, 'Open Heart', which recounts the stories of the young surgeons who pioneered heart surgery, was published in 2010.*

The introduction of dialysis in the mid-20<sup>th</sup> century resulted in the ethical dilemma of which patients should be selected (and thus survive) and which should not. The same ethical dilemma faced those involved in organ transplantation, and, because of the limited number of deceased human organs that become available, to some extent this dilemma still exists. Xenotransplantation, which is the transplantation of organs and cells from one species to another, would resolve the problem of the limited availability of organs.

Xenotransplantation, e.g., using the pig, therefore has an enormous potential to increase the supply of organs and cells to alleviate human disease. The remaining immunological barriers that need to be overcome are steadily being resolved by the genetic-engineering of pigs resistant to the human immune response. Xenotransplantation, however, like dialysis and allotransplantation before it, presents a number of ethical issues. These include (i) the use of an animal, the pig, for this purpose, raising questions of animal welfare/rights, (ii) the genetic engineering of pigs, particularly as human genes are being inserted into the genome of the pig, (iii) the potential risk that a porcine infectious agent will be transferred with the organ to the recipient, and may spread to the community at large, leading to a possible epidemic, (iv) the need for life-long monitoring of the recipient and his or her family and close contacts, including medical and nursing staff, for possible infections previously associated only with pigs, (v) the ability to obtain truly informed consent from the human recipients for what will be a complex clinical experiment, (vi) the ability to obtain confidentiality, if requested, and (vii) 'profit' motives (e.g., financial, academic prestige and advancement, etc). Importantly, however, xenotransplantation will negate some of the ethical concerns relating to the transplantation of human organs, such as the continuing problems of (i) payment for organs from living donors (who are often poor and underprivileged) that is common in developing countries, (ii) the dilemma of which patient should take priority in receiving a scarce and valuable organ from a deceased donor, and (iii) the potential transfer of a serious human infectious agent with the organ.

Learning objectives:

1. To understand the continuing ethical concerns relating to the transplantation of organs from deceased human donors
2. To understand the ethical concerns relating to clinical xenotransplantation using organs and cells from pigs
3. To understand the ethical aspects of clinical trials relating to novel advances in biotechnology



## **The “Most Distressing of all Human Maladies”: An Applied History Approach to the Modern Treatment of Schizophrenia**

David and Stephanie Darrow

*David Darrow is a 4th year MD/MPH candidate at the University of Texas Medical Branch in Galveston, TX. He is honored to be the recipient of the John P. McGovern Osler Student Scholar Award and Albert Schweitzer Fellowship. His areas of interest include functional neurosurgery and neuropsychiatry.*

*Stephanie Darrow is a Ph.D. candidate in medical humanities at the Institute of Medical Humanities at the University of Texas Medical Branch in Galveston, TX. Her areas of interest include narratives of mental illness, history of psychiatry, and ritual and medicine.*

In 1935 neurologist/psychiatrist Walter Freeman began performing prefrontal lobotomy as a last-resort treatment for patients with severe and intractable mental illness. The surgery came to be known as the Freeman-Watts procedure, and while it produced modestly favorable results for ten years, Freeman eventually became frustrated by the limitations of surgical methodology. Deeply disturbed by the horrific conditions he had encountered early in his career while working at St. Elizabeth’s Psychiatric Hospital, and desperate for a more efficient solution, Freeman shocked and disgusted his neurosurgeon partner James Watts in 1945, when he simplified the surgery into an office procedure, which came to be known as the notorious “icepick lobotomy.” In spite of the fact that many people condemn Freeman’s procedures as barbaric and reprehensible; his icepick lobotomy was a first shaky step towards freeing psychiatric patients from the impenetrable walls of mental institutions.

Originally meant to provide high standard, universal care to the mentally ill, regardless of socioeconomic status, state and federally funded asylums quickly deteriorated into poorly funded storage houses for the destitute and stigmatized. Institutions were often dismal and overcrowded and patients had a high likelihood of mistreatment and neglect. In 1905, Sir William Osler referred to mental illness as “the most distressing of all human maladies,” a title which owes its name in large part to the poor treatment of psychiatric patients in mental institutions. It was not until the 1960s, following the advent of psychopharmacology, that deinstitutionalization was able to free psychiatric patients from the horrors of institution life.

Since the deinstitutionalization movement, schizophrenic patients may no longer be indefinitely confined to the brick and mortar of mental hospitals, but they remain shackled by stagnated management through pharmacotherapy. Atypical antipsychotics have become the mainstay of treatment in schizophrenia, but at a significant cost to quality of life. When weighing the effectiveness of antipsychotics against the adverse effects, which lead to premature mortality and high morbidity rates, one cannot help but wonder if there is another approach, more harmonious with the type of medicine that Osler promoted. What would Osler think about the plight of the schizophrenic, and what would a modern Osler suggest? We will argue that, through the use of an applied history approach, modern schizophrenic patients can be seen as pharmacologically “institutionalized”. In addition, an Oslerian approach would suggest a conscientious examination of the suffering patients in conjunction with funding innovative research in neuroscience and neuropsychiatry, in order to bring about a second-wave deinstitutionalization of schizophrenic patients.

Learning objectives:

1. Explore the parallels between historical institutionalization for mental disease and modern management of schizophrenia
2. Discuss Oslerian principles in the context of deinstitutionalization
3. Apply Osler’s approach to medicine and uncertainty to the complex problem of treating schizophrenia

## **John Marie Keating (1852-1893): A Life Cut Short**

William N. Evans

*William Evans is professor of pediatrics at the University of Nevada School of Medicine and he is the founder and director of the Children's Heart Center – Nevada. His interest is in the history of pediatrics and pediatric cardiology.*

From the August 1899 *Philadelphia Inquirer*, four years before John Marie Keating died, a reporter wrote, "There is probably no one physician in the United States who is recognized as such an authority, and who has written as much on the disease of women and children, as Dr. John M. Keating...."

John Keating was born in 1852 in Philadelphia, and he died in Colorado Springs, Colorado, where he frequently visited for health reasons. His father was Dr. William Valentine Keating, and his mother was the daughter of Dr. Rene La Roche. He attended Polytechnic College of Philadelphia, having been directed there for an engineering education to maintain a "healthy outdoor environment." He attended Seton Hall, which awarded him an honorary LLD in 1892. He graduated with an MD from University of Pennsylvania in 1873.

Between 1879 and his death in 1893, he was the sole author, first author, or sole editor of ten books on a wide range of topics. He was the founding editor, senior editor, or contributing editor of four medical journals. He was a sketch artist and amateur photographer. He was the first Lecturer on the Diseases of Children at the University of Pennsylvania, and he may have had a conflict with Louis Starr, later the first Professor of the Diseases of Children at University of Pennsylvania. He was the medical director of the Pennsylvania Mutual Life Insurance Company and first president of the Association of Life Insurance Medical Directors. He was a founder and sixth president of the American Pediatric Society. He was the executive president of the Section on Diseases of Children for the first Pan-American Medical Congress Washington, D.C., although he was too sick to attend. He was the first author of *Diseases of the Heart and Circulation in Infancy and Adolescence*, the first comprehensive textbook in English specifically written about heart disease in children. He was sole editor of *the Cyclopaedia of the Diseases of Children*, the first comprehensive, multivolume textbook on diseases in children written in English. He was a Fellow of the College of Physicians of Philadelphia and a colleague of William Osler.

Learning objectives:

1. Review biographical information on John M. Keating
2. Describe John Keating's contributions to the history of pediatrics, especially his textbook on heart disease in children and his Cyclopaedia
3. Discuss, briefly, the emergence of pediatrics as a specialty

## Osler, Yellow Fever, and Human Experimentation

Gordon Frierson

*Dr. Frierson was engaged in the private practice of internal medicine and infectious diseases for 35 years. He served as attending physician at the Tropical Medicine Clinic at the University of California San Francisco for many years and operated a private travel medicine clinic for 16 years. He is currently retired.*

Giuseppe Sanarelli startled the medical world in 1897 with the publication of articles proposing a bacteria, *Bacillus icteroides*, as the agent causing yellow fever. Sanarelli, a respected Italian scientist, was, at the request of the Uruguayan government, head of the new Institute of Hygiene in Montevideo. His research there on yellow fever included the injection of a filtrate of *B. icteroides* into five human subjects, one of whom almost died.

Shortly after, at a meeting of the Association of American Physicians, Surgeon General George Sternberg presented a paper on Sanarelli's findings. In the ensuing discussion period William Osler brought up Sanarelli's injections of toxic material from the bacteria into human subjects. He characterized this behavior as "criminal." He elaborated on this charge the following year in a footnote to the chapter on yellow fever in the third edition of his *Principles and Practice of Medicine*, where he again condemned Sanarelli's human experimentation, and stated that, "just as a physician may experiment upon himself" a person may be experimented on only if it is voluntary and he is fully informed.

The issue surfaced again in February, 1900, at hearings held by a Senate committee on an anti-vivisection bill. The questioning drifted into human vivisection. Testimony was provided by Osler, along with Sternberg, Welch, and other leaders in medicine. Osler reaffirmed his position, using the direct quote from his textbook, but disguising it as a statement from "one of the medical professors in one of the leading colleges." The overall medical testimony was instrumental in defeating the bill.

That same year Sternberg organized the Yellow Fever Commission, headed by Walter Reed, which was soon to engage in hazardous human experimentation. Sternberg had himself conducted experiments on humans – he had inoculated men with gonococcus and had injected immune variola serum into orphaned children – and he had heard Osler's remarks condemning Sanarelli. It is likely that this experience played a role in the careful informed consent drawn up for the yellow fever experiments, one of the first such documents known.

In the following year further human inoculation trials were done by Juan Guiteras and William Gorgas in an attempt to immunize subjects by inducing yellow fever with a small inoculum. Guiteras, known to Osler, had previously been considered as a runner up for Osler's position at the University of Pennsylvania. Again informed consent was used, but this time three people died. In 1907 Osler testified again, this time before the Royal Commission on Vivisection. He detailed and praised the experiments carried out by the Reed group but omitted mention of the one done by Guiteras. Gorgas' widow, in a later biography, denied her husband's connection with the Guiteras experiment.

The level of informed consent and general principles outlined in this period were to last (though not always honored), without formal codification, until World War II. The atrocities committed in that war and persistent issues of experimenting on children, prisoners, and soldiers, led to a new era in formalizing rules for human experimentation.

Learning objectives:

1. Outline the position of human experimentation in nineteenth century medicine
2. Explain the role of yellow fever investigations in clarifying the limits of human experimentation
3. Discuss the interaction of the medical and political spheres in vivisection arguments

## The Vanderbilt-Johns Hopkins Connection: Osler's Long Shadow

Gottlieb C. Friesinger

*Gottlieb C. Friesinger spent 20 years at Johns Hopkins (beginning as a medical student) prior to becoming Chief of Cardiology at Vanderbilt in 1970. His research interests centered around understanding the natural history and effects of interventions in acute myocardial infarctions (AMI) and angina pectoris, and in the last 10 years of his active career researching these problems in the elderly. He has been interested in William Osler since the summer prior to entering medical school. The family physician gave him Cushing's two volume biography and reading that work stimulated an interest that continues to this day.*

The medical education revolution which commenced at Johns Hopkins in 1893 and received validation with the Flexner report 17 years later had implications for all medical schools but none more than Vanderbilt. In 1919 (the year of Osler's death) G. Canby Robinson who had been Osler's student (Hopkins-MD-1903) was named Dean and Chair of Medicine to build a new school and recruit a faculty with Rockefeller funding; which had been secured by Vanderbilt Chancellor Kirkland. Osler's influence on Robinson was profound; and second generation Oslerians made up virtually the entire Vanderbilt faculty in medicine; and all the principal chairs were Hopkins trained. Robinson duplicated the pre- and post-doctoral educational programs he had witnessed in Baltimore which had been so heavily influenced by Osler. The first chief residents in medicine and surgery (Tinsley Harrison-JHU-MD 1922 and his classmate, Alfred Blalock) stayed at Vanderbilt for 16 years and became extraordinary leaders and innovators in American medicine. John Youmans (JHU MD 1918) created a legendary OPD program for medical students which reproduced what Osler had created at Hopkins. Rudolph Kampmeier, was imbued with the Osler philosophy at the University of Iowa where Campbell Howard, one of Osler's Hopkins residents, made Kampmeier a life-long Oslerophile- another manifestation of Osler's long shadow. Kampmeier, like Osler, was a prolific writer (of textbooks and long time journal editor) and a national leader in organized medicine. This first group with the profound Hopkins-Osler imprimatur moved Vanderbilt into the first rank of schools. Over the 20th century, more than 400 physicians with important experiences at Johns Hopkins have made the trip to Vanderbilt-including 19 chairs, 5 deans, and dozens of others heading major divisions or research programs. Twenty-four have been chief residents at Johns Hopkins including 11 on the Osler medical service. Osler's teaching philosophy was so powerfully implemented during this early (1925-45) period that it sustained Vanderbilt through problematic times in mid-century to regain first rank status.

Learning objectives:

1. Outline the extraordinary Vanderbilt-Johns-Hopkins relationship during the 20<sup>th</sup> century
2. Discuss how Osler, primarily through Hopkins trainees who never knew him, profoundly influenced the evolution of the Vanderbilt Medical School during the 1925-1945 period
3. Describe how the powerful effects of these early years –together with a parade of over 400 Hopkins trainees—allowed Vanderbilt to weather lean times and regain first rank status

## Tinsley Harrison, Osler, and the Other Textbook of Medicine

J. Michael Fuller

*Michael Fuller is Associate Professor of Medicine, Assistant Dean for Faculty Development, Program Director for the Internal Medicine Residency and Vice Chairman – Academics for the Department of Medicine at the University of South Carolina School of Medicine - Greenville where he also serves as an attending in the Division of Pulmonary and Critical Care Medicine.*

Tinsley Randolph Harrison (1900-1978) is one of the grand figures in the history of medicine, having touched many lives through his teaching and professional care. More than any other single physician, he established the course of the Medical College of Alabama, which became the School of Medicine of the University of Alabama at Birmingham. Born in Talladega, Alabama to a sixth generation physician, William Groce Harrison, young Tinsley's life was to be impacted by William Osler. Groce Harrison graduated from the University of Nashville. Recognizing his medical educational deficiencies, he enrolled at Baltimore Medical College in 1892. There, he learned of a new institution being established at nearby Johns Hopkins Hospital. Enrolling at Hopkins, he met and befriended William Osler. Groce would often write or meet Osler to ask career advice. In one such encounter, Osler instructed him to, "Go abroad and get a year's training, if that is all you can afford. And train those boys to be teachers of medicine." Thereafter, Tinsley was destined to become a medical educator, and his father ensured that this advice from Osler became a reality. Tinsley found himself studying medicine at Johns Hopkins due to Osler's and Groce's influences. He persisted in the Oslerian tradition taught by his father while on faculty at Vanderbilt University School of Medicine, continuing his career as Chair of Medicine at Bowman Gray School of Medicine, Southwestern Medical College, and the Medical College of Alabama.

When comparing the legacies of Osler and Harrison, there are remarkable similarities in their contributions to medicine. Both served at 4 different medical schools and were responsible for burgeoning medical programs as founding chairs of medicine; both lost sons in world wars; both returned to their ancestral roots at the end of their careers; they were fantastic educators who frequently invited students into their homes; both have medical residency training programs named in their honor. And, of course, both produced outstanding textbooks of medicine. In 1892, Osler's *Principles and Practice of Medicine* with its straight forward, up-to-date, clear language organized by pathogenesis and organ systems was immediately considered the standard textbook of clinical medicine. In 1950, the time was ripe again for a new textbook of clinical medicine. Harrison's *Principles of Internal Medicine* imparted an entirely different and innovative scheme worthy even of description in a *Time Magazine* article. This textbook demonstrated a new way of approaching diseases, beginning first with the signs and symptoms experienced, thus mirroring the day-to-day practice of a physician.

Like Osler, Tinsley Harrison went beyond yearning to be a better doctor, instead obsessing with cultivating better doctors. He valued most the physician/patient relationship, clinical reasoning, and professionalism. He taught to always do what is right, not necessarily what is best, in all of life's endeavors. Osler would have been proud of the product of his counsel.

Learning objectives:

1. Evaluate the influence of William Osler on the life of Tinsley Harrison
2. Compare the contributions to medicine from William Osler and Tinsley Harrison
3. Compare and contrast the content of William Osler's and Tinsley Harrison's textbooks of medicine

## **'Re-tuning the Harp' – The Holistic Alternative to Continuous Therapy**

David Hamilton

*Dr. Hamilton is an Honorary Senior Lecturer, Bute Medical School, St Andrews, Scotland  
Author of History of Organ Transplantation (2012), Scottish Medicine: An Illustrated History  
(2011), The Monkey Gland Affair (1984). He was McGovern Lecturer in 1994.*

Holistic management of disease returned to favor in the 1920s. As Osler was well aware, few pharmacological agents were available and the older complex therapies had been discredited. The new strategy was an old one - namely that the disordered body could be returning back to health, and remain so, largely through advice on life style and regimen – notably diet, exercise and change of climate.

With the advent of new chemical therapies in mid-20th century, this holistic 're-tuning' of the body initially survived in an another guise. Physicians, now often reluctantly using these pharmaceutical agents, suggested that they should be used for a short time only. The aim was, as before, to reset the body back to health, and that the medication should then cease.

This paper looks at the use of some pioneering pharmaceutical products and the opposition to their *continuous* use. This resistance was often rationalized by the expense of these newer agents, such as cortisone, or skepticism that diseases like cancer could be treated chemically. But behind these objections, a philosophical objection to continuous therapy can often be uncovered. Though the debate was steadily lost by the holistic physicians, it could still be detected in later events, notably the resistance to regular haemodialysis treatment of terminal renal failure.

Learning objectives:

1. Explain the opposition to continuous therapy
2. List examples of such opposition
3. Evaluate its earlier origins

## ***Philobiblon*, 24 Jan. 1345 and the de Burians of Bangor, Maine, 1901-07**

Richard J. Kahn

*Richard Kahn has been a member of the AOS for over 30 years, which is quite amazing for someone 39 years old. He was president of the AOS 1998-99. As a septuagenarian who has been practicing medicine for 39 years, even more amazing, he now lives and practices geriatrics in Rockland and Camden, Maine. In the spirit of 18<sup>th</sup> and 19<sup>th</sup> century physicians in Maine, he and Patty welcome AOS members to visit them in downtown Martinsville, Maine, should they be "doing the Maine coast."*

Osler's remarks at the opening of the Boston Medical Library in 1901 became the essay "Books and Men" in *Aequanimitas* in 1904. I have always loved the quotation from *Philobiblon* that preceded the essay, so I decided to learn more about the book and its author, Richard de Bury (1287-1345). I was surprised to find a book club named after de Bury in Bangor, Maine. Soon I found several books they had published, the first being about their namesake, Richard de Bury, as well as their 3-volume scrapbook (1900-07). The scrapbook included newspaper articles, photos, letters, and meeting topics. I'll report on a voyage to the public and private libraries of two coastal towns. I will also focus on a pilgrimage one of the de Burians made to Durham Cathedral where he was very upset to find no marker on Bishop Bury's gravesite. He had made plans with the dean of Durham Cathedral mark the site with a carved gravestone. Subsequently Andrew Fleming West, Professor of Classics at Princeton and translator of the 1889 Grolier *Philobiblon*, found the same Durham/de Bury deficiency. He and several Princeton Grolier Club members were about to donate a grave marker when they were told the de Burians of Bangor, Maine were already working on the project. How was the grave problem resolved?

Learning objectives:

1. Identify Richard de Bury and the *Philobiblon*
2. Compare and contrast the de Burians of Bangor, Maine and the Grolier Club
3. Explain how the monumental de Burian/Grolier situation was resolved

## **Magic, Heroism and Realism on Medical Television, 1950s to the Present**

Katherine M. Keirns

*Ms. Katherine Keirns is a graduate of the University of North Carolina-Chapel Hill and Rutgers University. She is currently enrolled at Princeton University where she is working toward her PhD, writing about the environmental history of the US military. Carla Keirns, MD, PhD, is a member of the American Osler Society.*

Background: Television medical dramas reach millions of Americans each week, entertaining them with a fictionalized view of medicine that has become increasingly sophisticated. Medical dramas of the 1930s to the 1960s focused on the magic of modern medicine, painting physicians as heroes. From the 1970s to the 1990s, shows such as MASH, St. Elsewhere and ER began to present medicine as a site of social conflict. Contemporary dramas focus on interpersonal aspects of medicine, yet demonstrate new levels of realism in aspects of their medical outcomes such as survival from CPR.

Methods: Earlier medical dramas were reviewed for their tone, content, and characterization, relying in part on review of recordings and on critical analyses by medical and media experts. For recent shows we undertook a systematic study of CPR and DNR events on three popular television dramas, including ER seasons 10-15 (2003-2009), House seasons 1-7 (2004-2011), and Gray's Anatomy seasons 1-7 (2005-2011). The focus of the study was the clinical circumstances of cardiac arrest, survival after CPR, survival to hospital discharge or the end of the episode, disability after CPR, use of DNR orders, and the debriefing process after CPR. Coding was done by two physicians and one graduate research assistant. 20% of episodes aired 2004-2009 were double coded (PD and KMK). Of 8814 coding decisions in these episodes, double coding was performed for 1762; coders concurred initially on 1735 decisions (98.47%). Cohen's Kappa for agreement is 0.965 (95% CI 0.952 to 0.978). Additional seasons (ER 1994-2003, House 2009-2011, and Gray's Anatomy 2009-2011) were coded by one coder KMK.

Results: The initial survival rates from CPR were: ER 90/210 arrests (42.9%) of whom 30/199 patients (15.1%) survived the episode, Gray's Anatomy 52/156 arrests (33.3%) of whom 29/144 patients (20.1%) survived the episode, and House 58/88 arrests (65.9%), 55/83 patients (66.3%) survived the episode. There are more arrests than patients in each show because some patients coded more than once, but an individual can only die once. Notably on house 95% of patients who survived the arrest survived the episode, while on ER only 33% of those who survived the arrest also survived the episode with many dying of their other injuries, and on Gray's Anatomy 56% of those who survived the arrest also survived the episode. DNR orders were rare, with 19 in place out of a total of 426 patients across all shows. On ER all but one DNR order was honored, while all but one were ignored on House and Gray's Anatomy.

Conclusions: Medical television has shifted from the mid-20<sup>th</sup> century, when it frequently showed physicians as heroic figures and medicine as miraculous, to the present where medical saves may be just as dramatic, but the people performing them are seen as mere mortals.

Learning objectives:

1. Contrast portrayals of physicians on television from the 1950s to the present
2. Analyze the differences between CPR results on television and in real clinical practice
3. Explore how patients' and families' perceptions of medical decisions may be influenced by media portrayals



## **Bridging the Science-Humanities Gap**

Dennis M. Kratz

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William Osler spoke eloquently of the need for engaged education that bridges the gap between science and the humanities. That need persists. In his recent book *The Age of Wonder* Richard Holmes writes that we should be impatient with...the old rigid debates and boundaries...We need a wider, more generous, more imaginative perspective." Education that connects the sciences with the humanities is necessary if we are to prepare students adequately for the science and technology driven, globally interconnected, and change intensive world of the twenty-first century. This linkage can provide a solution as well for two related problems: over-specialization in science education and a declining interest in discipline-based humanities education. The union of the liberal arts with science and technology produces demonstrable and important benefits. The psychologist R. Keith Simonton has examined the relationship between scientific innovation and engagement with the arts. Steve Jobs attributed the success of Apple to a philosophy based on the marriage of the liberal arts with technological expertise.

The paper describes ongoing efforts at the University of Texas at Dallas to address this educational challenge by fashioning a "New Humanities" that fosters the positive interaction of the liberal and creative arts with science and engineering. This innovative approach to the humanities is characterized by such elements as an academic structure based on "interlocking circles of interest" rather than on disparate "departments;" a learning-centered environment that makes use of digital game-based learning to encourage the integration of critical with creative thinking, theory with practice, and guidance with curiosity; "translation" as a conceptual frame; interdisciplinary degree programs that integrate liberal arts with science and engineering; and our Center for Values in Medicine, Science and Technology.

Learning objectives:

1. Describe a specific approach to integrating the humanities and the sciences
2. Discuss the value of translation as a conceptual frame
3. Explain the potential of digital game-based learning in education

## Oswald Avery, the Rockefeller Institute and the Pneumococcus

Irving Kushner

*Dr. Kushner: B.A. Columbia University, 1950; M.D. Washington University, 1954. He trained at Yale-New Haven Hospital and the Harvard Service of the Boston City Hospital. He has been at Case Western Reserve University since 1958.*

When Oswald Avery (1877 – 1955) graduated from medical school in 1904, pneumonia was the leading cause of death in the United States and was untreatable. Medical practice was still largely empirical. Physicians felt that laboratory science could never contribute anything of practical value to medical practice.

At about that time, Frederick Taylor Gates was John D. Rockefeller's principal philanthropic adviser. After reading Osler's magisterial textbook *The Principles and Practice of Medicine*, (3), in which Osler expressed his skepticism about prevalent forms of therapy Gates concluded " : *"This book not only confirmed my skepticism, but its revelation absolutely astounded and appalled me... It became clear to me that medicine could hardly hope to become a science until medicine should be endowed, and qualified men could give themselves to uninterrupted study and investigation, on ample salary, entirely independent of practice. To this end, it seemed to me an institute for medical research should be established in the United States."* In 1906 The Rockefeller Institute was founded.

In 1913, Avery was appointed Bacteriologist to the Hospital of the Rockefeller Institute where he devoted the rest of his career to elucidation of the biology and immunochemistry of the Pneumococcus, the most common cause of pneumonia at the time. In the course of his studies, his laboratory made three monumental contributions: 1) it demonstrated that polysaccharides were antigenic; 2) it discovered C-reactive protein, which opened the door to study of the acute phase response, and 3) it showed that it was DNA that conveyed genetic information. Biomedical science has aggressively pursued all of these discoveries, with important theoretical and practical consequences.

Learning objectives:

1. Explain the circumstances leading to the establishment of the Rockefeller Institute
2. List Oswald Avery's major contributions to medical science
3. Discuss how these findings led to important theoretical and practical consequences

## Jan Gosta Waldenström – Why Not a Nobel Prize?

Robert A. Kyle

*Robert A. Kyle is Professor of Medicine, Laboratory Medicine & Pathology at Mayo Clinic College of Medicine. He is immediate past president of the International Myeloma Society and past president of the International Society of Amyloidosis. He serves as chairman of the Scientific Advisory Committee of the International Waldenström's Macroglobulinemia Foundation and chairman of the Scientific Advisory Board of the International Myeloma Foundation.*

Born in Stockholm on April 17, 1906, the son and grandson of Uppsala professors, Jan Gosta Waldenström studied organic chemistry with Hans Fischer in Munich following his MD degree from the University of Uppsala. This led to his classical monograph entitled "Studien Über Porphyrrie" in which he described acute intermittent porphyria. He subsequently described benign hypergammaglobulinemic purpura of Waldenström (BHPW). He reported the association of liver cirrhosis and hypergammaglobulinemia, which is now called chronic active hepatitis. He was the first to recognize pulmonary hemosiderosis.

His many contributions to hematology are overshadowed by his description of macroglobulinemia. In 1944, he described two patients with oronasal bleeding, lymphadenopathy, normochromic anemia, elevated ESR, and increased numbers of lymphoid cells in lymph glands and bone marrow; but in contrast to multiple myeloma, there was no bone pain or lytic bone lesions. He noted a large homogeneous globulin with a sedimentation coefficient of 19-20S with a molecular weight of approximately 1,000,000. He postulated that the protein consisted of a giant molecule rather than an aggregation of smaller globulin molecules. Today the abnormal protein is designated as IgM.

His seminal contribution, presented in the Harvey Lecture Series in 1961, was the concept of monoclonal versus polyclonal gammopathies. Monoclonal gammopathies are associated with a malignancy or a potential malignancy such as multiple myeloma or "benign monoclonal gammopathy" (Monoclonal Gammopathy of Undetermined Significance – MGUS), whereas patients with a polyclonal gammopathy have a nonmalignant, inflammatory or reactive cause of their hypergammaglobulinemia.

He became Professor of Theoretical Medicine at the University of Uppsala in 1947 and three years later was appointed Professor of Practical Medicine at the University of Lund and Physician-In-Chief at Malmö General Hospital.

He was most interested in the welfare of the patient and emphasized that one should not always attempt to cure the patient with chemotherapy. He emphasized the importance of "let well alone." He often told his students about an inscription on a tombstone "I felt well but wanted to feel better - therefore I am here."

Learning objectives:

1. List the original diseases described by Waldenström
2. Recognize the importance of the classification of protein disorders into monoclonal and polyclonal gammopathies
3. Outline the clinical and laboratory features of Waldenström's macroglobulinemia

## Thomas Wolfe: Chapel Hill Days and Death From Tuberculosis

S. Robert Lathan

*Dr. Lathan is a graduate of the Johns Hopkins University School of Medicine and a member of the Thomas Wolfe Society and a retired internist. During his research on Thomas Wolfe, he reviewed Wolfe's medical records at Johns Hopkins.*

Thomas Wolfe, regarded as one of the greatest novelists of the 20<sup>th</sup> century, died in 1938 at Johns Hopkins Hospital at the age of 37 from tuberculosis (TB) of the brain. Other great literary figures afflicted with TB include Keats, Shelley, Elizabeth Barrett Browning, Robert Louis Stevenson, Thoreau, Emily and Charlotte Bronte, Chekhov, and F. Scott Fitzgerald.

In 1900, the year of Wolfe's birth in Asheville, N.C., his hometown had become a world center for the treatment of tuberculosis. At that time, TB, also called the White Plaque, was the most dreaded disease throughout the world and the leading cause of death in the United States.

The "climatic theory" of treating lung disease proposed that altitude, atmosphere, and the climate of cool mountain air would help cure the disease of TB. Asheville offered the best combination of these elements, and because of this, thousands of TB victims came there. At the end of the 19<sup>th</sup> century, Asheville had 25 TB specialists, and over 25 TB sanitariums were later established there, but most patients stayed in boarding houses. Wolfe's mother, Julia, purchased a boarding house in 1906 and young Tom moved in for about 10 years and was very likely exposed to TB while there.

Tom was only 15 when he enrolled at UNC in Chapel Hill. He came there alone with no connections and would become a prominent and popular campus figure. He was editor of the college newspaper, *The Tar Heel*, associate editor of the annual, and wrote for the college magazine. Active in debate and the Carolina Playmakers, he was recognized as a "genius" in his senior annual entry.

In 1938, Wolfe embarked on a western vacation trip and was hired in Portland, Oregon to write about the national parks. A whirlwind trip over a 2 week period covered 4500 miles. Afterwards, he developed fatigue and symptoms suggestive of pneumonia. He was treated in a private sanitarium for several weeks but had a persistent cough and fever and later severe headaches. A chest x-ray showed a large area of right upper lobe consolidation and TB was considered.

One month later, Wolfe was found to be disoriented and confused and a fundoscopic exam showed a "choked disk." He was urged to go to Johns Hopkins to be examined by Dr. Walter Dandy. Wolfe boarded a train for a 5 day trip east, arriving in Baltimore on September 10, 1938. After immediate admission to Johns Hopkins, Dr. Dandy performed a trephining procedure to relieve pressure on the brain and did major surgery on September 12, consisting of a cerebellar exploration. This showed "myriads of tubercles" throughout the meninges. Wolfe never regained consciousness and died September 15, 1938, just 18 days short of his 38<sup>th</sup> birthday.

It is ironic that Wolfe died so young, as an early death was always on his mind. Because of this, he thought he could never write down all that he had to write. In the 12 years between his masterpiece, *Look Homeward Angel*, in 1926 and his death, Wolfe turned out literally millions of words – a record few American writers can match.

Learning objectives:

1. Explain why Asheville, N.C. became a world center for treatment of TB
2. List some of Wolfe's activities at University of North Carolina
3. Discuss how Wolfe developed TB and died and why he was obsessed with writing

## Osler and Bethune: Similar in their Differences

Joseph W. Lella

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Sir William Osler (1849-1919) was born in Bond Head, Ontario a crossroads now just beyond the frenzy of metropolitan Toronto. A plaque commemorates him, son of a local Anglican minister, he “revolutionized methods of medical instruction” and was... “known as the father of clinical medicine.” He was a son of the established English Church, his father a traditional pastor rooted in place. Early on William wished to follow his father’s vocation but later abandoned this for medicine the profession of a celebrated uncle. Mentors of his youth were science-oriented churchmen. The young Osler attended the private Trinity College School. He worked in elite, North American and British universities. He was a ‘club man’ and served many professional organizations with distinction. While Regius Professor of Medicine at Oxford, King George VI made him Baronet. His teaching, clinical work, writings and published ‘lay sermons’ saw him adopted as mentor by students and lionized by peers and public alike. His career was a steady rise upward. His private life was impeccably respectable. Osler saw his profession as analogous to the church. It was a ‘brotherhood’ with a noble human mission.’ He has become a ‘patron’ saint whose name is perpetuated by well-established medical institutions. He was the quintessential medical gentleman.

Norman Bethune (1899-1939) was born 90 miles north in Gravenhurst, Ontario, a small town. A plaque and national historic site/museum mark his birthplace and achievements. Norman was the son of an evangelical, Presbyterian minister whose family moved from place to place, largely among small, northern towns. His father preached service to all within an unpopular, and repressive morality. Norman rebelled against this and against ‘pretentious’ authority. He remained committed, however, to serving the needy. He was educated in public schools and as a young man worked in lumber camps adopting their rough life and manners. Following in the footsteps of a grandfather, however, he decided to become a surgeon studying like Osler at the University of Toronto and McGill. But Bethune’s surgical career was marked by radical contrasts. Though praised for his skill he was criticized for operating too quickly on ‘far-gone cases.’ “Better try than let them die” could have been his motto. His surgical innovations were praised but intolerance of superiors, and brusque personal manner was resented. His personal life was unconventional, marked by alcoholism and a succession of sexual relationships. His own tuberculosis and work with TB victims led him to appreciate the social roots of disease. His skills as a writer and speaker made him an articulate advocate for publicly funded medical care in Canada. He joined the Canadian communist party and participated in the Spanish civil war. But serious conflict with Spanish, and Canadian comrades and superiors moved him to go further afield, to China and Mao’s revolutionary army in its war against Japanese invaders. He died of an infection contracted while operating on the wounded without gloves in a cave close to the battle lines. Bethune’s medicine was the scientific tool of a crusade different from his father’s but similar, a crusade to achieve world revolution and an egalitarian society. He is a patron saint of Chinese communism, selfless service to the people, and for their health. China celebrates his life with a named medical school, still educating its children in his legacy. In Canada, McGill and York Universities have honored Bethune posthumously. There are a number of commemorative statues in the country and popular films and plays portray his life. Thousands of Chinese tourists visit his birthplace in Gravenhurst.

Two physicians, two Canadians, sons of different manses at different historical moments. Each attempted to adapt and fulfill the responsibilities of his religious heritage. As they did, I believe that we all should examine in depth and adapt what we can identify as the best in our heritage to our own personal, professional and social circumstances.

Learning objectives:

1. What did William Osler derive from his upbringing as a minister’s son and how did he apply this to his life as a physician?
2. Answer the same questions for Norman Bethune
3. Comparing Osler and Bethune, how would you evaluate their achievements?

## William A. Marburg's Contribution to Sir William Osler's Love for Books and Libraries

Robert I. Levy

*Robert I. Levy, M.D. is a retired Nephrologist, graduate of Johns Hopkins in 1953 with interest in the History of Medicine. I currently do my research in the Historical Collection of the Institute of the History of Medicine at Johns Hopkins. The subject of this paper was recommended by Christine Ruggere, Associate Director of the Institute of the History of Medicine and Curator of the Historical Collection.*

Sir William Osler was devoted to the collection of books from his youth. The thrill and allure of old books were as challenging to Osler as a problem in diagnosis or treatment. Osler not only collected books for himself but frequently made donations of volumes to a number of libraries. In addition Sir William acted as a book scout for the newly-founded Medical School of the Johns Hopkins University, identifying major collections for their acquisition and also finding the funding for the purchases. This paper documents the role of William A. Marburg, a Baltimore tobacco manufacturer in bankrolling Osler's recommendations. The first was the Warrington Dispensary Library from England in 1906. Accumulated from 1810 through 1840 this collection contained almost a thousand books from the 16<sup>th</sup> through the 18<sup>th</sup> century, half before 1750 and 33 titles from the sixteenth century. Representative books from this collection include Giovanni de Vigo's 1531 *Opera... in Chyrugia (Works in Surgery* -- the oldest book in this collection), Robert Burton's *Anatomy of Melancholy*, 8<sup>th</sup> edition, S. Freeman's book on *Practice of Horse Medicine or the Art of Farriery* from 1772, Benjamin Rush's *Medical Enquires*, and William Withering's 1<sup>st</sup> edition of *An Account of the Foxglove*. A second joint cooperation between Osler and Marburg was the Jonathan Hutchinson Collection in 1915, comprising over 5000 items on a variety of subjects that was reviewed by Dr. Victor Mckusick in 1951 and was a stimulus to his studies in genetics. Not all of the efforts of the team of Osler and Marburg had successful outcomes - the John Frank Payne collection slipped away at auction in 1911 at Sotheby's only to be sold to the Wellcome Historical Museum because of a "rapid sale." Osler was "glad for the sake of Dr. Payne's memory that it has been kept together and well housed in the Wellcome Historical Museum." An interesting feature of this study is the fact that Mr. Marburg, unlike many in Osler's circle of friends, showed no evidence of being interested in collecting books for himself.

Learning objectives:

1. Comment on Osler's dedication to books as exemplified in his dictum, "to study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all"
2. Explain the role of William A. Marburg as a sponsor and facilitator of Osler's insatiable appetite for the accumulation of books for the Johns Hopkins Medical Institution
3. Discuss the ways in which the collecting and study of books use the past efforts of to preserve the history of medical progress

## Adolf Kussmaul and His Relevance to Medicine in the 21<sup>st</sup> Century

Eric L. Matteson

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*Dr. Matteson received the M.D. degree from Friedrich-Alexander University at Erlangen-Nuremberg. He completed an internship and residency in internal medicine at Michigan State University and a fellowship at the University of Michigan and received the M.P.H. degree in Public Health in Epidemiology from the University of North Carolina, Chapel Hill.*

*Dr Matteson's clinical and research interests are in the fields of vasculitis and inflammatory arthritis. His research agenda includes investigation into the epidemiology of these diseases and their clinical disease expression and impact on patients who suffer from them, biomarkers of disease susceptibility and disease activity, and clinical trials of novel agents.*

Adolf Kussmaul was one of the great physicians of 19<sup>th</sup> century Western medicine. In his long and productive career as an internist and investigator, he made many contributions that, in the spirit of the era, helped to advance the science of medicine while he preserved his humanistic qualities. To this day, he is an inspiration for internists, rheumatologists, and gastroenterologists, and his contributions define the essence of these disciplines.

Linked to the name Kussmaul is "polyarteritis nodosa," described by him and his colleague, the pathologist Rudolf Meier, in 1866. Eponyms include "Kussmaul pulse" and the "Kussmaul breathing" of diabetic coma. Of this small selection of clinical entities described by Kussmaul, polyarteritis nodosa is still not completely understood and is the subject of active investigation, "Kussmaul pulse" remains of great clinical importance at the bedside, and "Kussmaul breathing" is a sign known to medical students around the world.

After graduating from the medical faculty at the University of Heidelberg in 1845, Kussmaul traveled to Vienna and Prague for further study and met Rokitansky, Skoda, and Semmelweis. As much as he learned from them, the 26-year-old Kussmaul still criticized the "young Viennese school" for its excessive emphasis on diagnostics and therapeutic nihilism.

In 1859, Kussmaul was called to the University of Erlangen as professor of pharmacology and head of the department of medicine. Between 1863 and 1876, he was professor of medicine at the University of Freiburg, where he wrote most of his important papers and was an effective and innovative administrator. Thereafter, until 1888, Kussmaul was professor of medicine at the University of Strasbourg. Although he continued to be very active in teaching and research, he allowed his assistants to publish most of the papers (while he carefully watched over their work). He returned to Heidelberg as professor emeritus in 1888, where he founded the Diaconic Hospital, wrote his popular memoir, *Youth Memoirs of an Old Doctor*, and became an honorary citizen in 1897. He died at the age of 80 in 1902.

Kussmaul was a great physician in a time of great physicians. His works reflect the use and understanding of pathologic anatomy and histology that were becoming well developed by the mid part of the 19<sup>th</sup> century and also the innovations of biopsy, endoscopy, and biochemical, pharmacologic, and toxicologic techniques used in the clinical laboratory and at the bedside. Kussmaul's natural disposition and personality seemed destined to make him a trusted physician and leading clinical scientist, and recognized by William Osler as one of the leading physicians of his time.

Learning objectives:

1. Describe Adolf Kussmaul's medical contributions to 21<sup>st</sup> century medicine
2. List examples of Kussmaul's humanistic qualities
3. Identify two key bedside procedures used in patients in a diabetic coma

## **William Osler, Samuel A Fisk, and the American Climatological Association**

J. Mario Molina

*Dr. Molina is CEO of Molina Healthcare. He resides in South Pasadena, California.*

Tuberculosis (TB) was a leading cause of death in Osler's day and it touched the lives of his patients and students. Fisk's experience is typical of many students of the time; after graduating from Harvard, he was appointed to the house staff of the MGH but left after contracting pulmonary TB. He moved to Colorado where he worked on a ranch for 3 years before entering practice in Denver. He was influential, serving as Dean of the University of Denver medical school and President of the Colorado State Medical Association. Fisk was a prolific writer and his articles helped to establish the reputation of Colorado's climate in the treatment of TB. Fisk was a contemporary of Osler and they were members of the Association of American Physicians (AAP) and the American Climatological Association (ACA). Fisk became president of the ACA in 1902. Osler wrote, "The teacher's life should have three periods, study until 25, investigation until 40, and profession until 60..." Osler and Fisk corresponded on the "Fixed Period" incident. Osler wrote to Fisk, "Did you know that Plato put the prime of life at 25? have you ever read Montaigne on the subject, I am afraid I got my ideas largely from him." And in another letter, "Huxley was very strong on the question. He urged the pole-axe for all scientific men at 60." Even though Osler and Fisk's lives crossed paths many times, Cushing makes no mention of Fisk in the *Life of Sir William Osler*. Fisk retired to Massachusetts where he died in 1915.

The sanitarium movement began in the mid-19<sup>th</sup> century in Europe where fresh mountain air, sunshine and nutrition were the cornerstones of TB therapy. American physicians sought the best climate for treating TB. Colorado physicians, like Fisk, published hundreds of papers on TB extolling the virtues of Colorado's climate for its treatment. Trudeau established his sanitarium at Saranac Lake in the Adirondack Mountains, where he had been cured of TB, and Osler referred patients there. Many patients could not afford to move, so Osler became a proponent of the home cure reasoning that fresh air, sunshine and proper nutrition could be provided at home.

The objective of the ACA was to study climate and diseases of the respiratory organs. Osler was a member in 1886, the same year the AAP was formed, and met Edward Trudeau at the ACA's meeting in 1887. TB was thought to be due to environment or heredity until Koch's discovery of the tubercle bacillus in 1882. Physicians were slow to accept Koch's discovery and a change in climate continued to play an important role in treatment until the introduction of streptomycin in 1946. After 1886 Osler turned his attention to the AAP with its broader mission. Had Osler remained with ACA, it might have been quite a different organization. Times change, and at the urging of its president, Charles Minor, the ACA changed its name to the American Clinical and Climatology Association in 1913 and broadened its scope to include "general clinical medicine."

Learning objectives:

1. Explain Samuel A. Fisk's role in the popularization of Colorado as a health resort
2. List three authors that Osler credits for his ideas on in his address "The Fixed Period"
3. Name the drug, introduced in 1946, that ended the climatology movement



## Pamphleteer, Politics, Palsy & Poppuns: Life and Near Death of James Parkinson

Michael E. Moran

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James Parkinson is one of the eponymous physicians whose name evokes a well known medical condition, but whose legacy has nearly been forgotten except by those who believe that "chronology, so the saying goes, is the last bastion of the feeble minded and the only recourse for historians." Parkinson was one of those early modern physicians who became interested in many things and who in turn, has left us a remarkable written legacy. This is an attempt to distill the essence of James Parkinson for modern physicians.

James Parkinson was born on April 11, 1755 at 1 Hoxton Square, Shoreditch, London to John Parkinson. John Parkinson was a successful and well thought of apothecary and surgeon before the Royal Society of Surgeons came into existence. John was distinguished as Anatomical Warden of the Surgeon's Company (later the Royal College of Surgeons) and wrote medical treatises, so his son would come by his remarkable talents earnestly. We know little about the interactions of father and son, but James chose to live and work in his father's house and practice for the rest of his life. In fact, the legacy persisted with James' son John also becoming an apothecary/ surgeon and practicing in the same Hoxton location.

James Parkinson began his medical career in his father's practice; he studied at the London Hospital for 6 months in 1776 at age 20. He apprenticed with his father for six years and qualified as a surgeon in 1784. He also married Mary Dale and had six children. He won a silver medal from the Royal Humane Society for successfully resuscitating Brian Maxley, a 28 y.o. male who apparently had hung himself. James also became a vocally active in the socioeconomic concerns of his east side community. Parkinson joined two very politically active reform groups at about this time, the London Corresponding Society and the Society of Constitutional Information. He became "Citizen Parkinson" in the LCS by 1793. His new career as a vocal pamphleteer was thus launched. There are twelve known pamphlets under his name or his *nom de plume*, Old Hubert that are still available. Parkinson became a highly respected advocate for social reform, opponent of unfair taxation, supporter of the French Revolution, freedom of speech, education for the poor, care for the elderly and disabled, and an outspoken critic of King George III. It is this latter matter that prompted some of his most vitriolic writing and his first encounter with the law, his practice was raided by the Bow Street police in October 1794 looking for seditious papers. He was summoned formally in 1795 by the Attorney-General to appear before the Privy Council in the "Pop-Gun Plot" inquiry that was an attempt on George III's life. As a capital offence, death or banishment to the penal colony in Australia was possible. He was formally interrogated by the Prime Minister, William Pitt. This affair marks the end of his political pamphleteer career, and his full attention and mental acumen turned towards medicine and natural philosophy.

James Parkinson then became an active apothecary, surgeon, paleontologist, and geologist as well as prolific medical writer. He had produced almost 20 books and publications. He influenced physicians widely and became a founding member of the Royal Geological Society. He won the first honorary gold medal of the Royal College of Surgeons. He published his *On the Shaking Palsy* in 1817. He published the first English account of perforated appendicitis with his partner, son John in 1819. His last paper was co-authored with his son John on typhoid fever in 1824. Parkinson died of a stroke on December 21, 1824. His son edited a work of his father's about the anatomy of John Hunter, published posthumously in 1833 (*Hunterian Reminiscences*).

Learning objectives:

1. Describe the life and times of James Parkinson and his connection with radical politics
2. Name some of the contributions that have direct links to his 1817 publication *An Essay on the Shaking Palsy*
3. Explain how the writings and thinking of James Parkinson grew and his lifetime contributions distinguished his later career and allowed him to become the first recipient of the Royal College of Surgeons 1882 Honorary Gold Medal

## **Edith Cavell Revisited**

Janet Murray

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Edith Cavell was an English nurse who was invited by the Belgian physician Antoine Depage to become the matron of a Nurses' Training School at a clinic in Brussels in 1907. She accepted the invitation, and so set in motion one of the most dramatic stories to come out of World War I.

She was at home in England visiting her mother when WWI began in August, 1914. She returned to Brussels immediately, and found that her clinic had become a Red Cross Clinic, and Belgium an occupied nation under the control of Germany. We will examine the circumstances that led to her arrest for treason and her execution.

We will also examine the world wide reaction to her execution, the use of her death to encourage enlistment in Europe and the Commonwealth, and the effect her execution had on the United States, which had not yet entered the war. The commemorations and memorials which continued long after the war will also be examined, including an award given to the author in 1953.

As the centenary of Nurse Edith Cavell's execution approaches, her life and death, and their influence on world history are being addressed, and will be addressed in this paper.

Learning objectives:

1. Describe the circumstances and charges leading to Edith Cavell's execution
2. Describe the use of her execution to increase enlistment in World War I
3. Describe the memorialization of Edith Cavell during and after WW I

## Osler and “The Greatest Medical Treatise Written by a Layman”

T. Jock Murray

*Dr. Murray is Professor Emeritus at Dalhousie University, former Dean of Medicine and a Past President of the AOS. He is a neurologist who devoted his career to care and research to MS patients. He authored an award-winning book on the history of MS.*

Soon after arriving in Oxford, Osler set out on a search for the many editions of Burton's 1621 “*The Anatomy of Melancholy*” and the hundreds of volumes Burton referenced in his monumental work. He located 580 volumes in the Bodleian and 429 in Christ Church. Osler then brought together the volumes in a new bookcase he had constructed and commissioned a copy of the Brasenose portrait of Burton to hang over the collection. Over the next few years Osler lectured to groups about the life of Burton, his great book, and his library. He even planned a new edition of “*Anatomy*”.

Osler owned many copies of “*Anatomy*” and a copy in the Osler Library at McGill has the inscription “Alex<sup>r</sup> Boswell / LB 1728” which probably was a copy owned by James Boswell's father. In the Library there is also an unpublished paper by Osler, “The Library of Robert Burton”. (B.O. 4637)

In 1926 a book of essays on Burton was published with Osler's three articles on Burton “reconstructed” into one chapter with the assistance of Lady Osler, Dr. W.W. Francis and Dr. Archibald Malloch, and an additional chapter by Osler.

Cushing described Osler's casket resting overnight in the chapel at Christchurch “with the quaint effigy of his beloved Robert Burton nearby”. Although a copy of Thomas Browne's “*Religio Medici*” was placed on his casket, and was said to be his favorite book, no book occupied Osler's energy and his time more than Robert Burton's “*The Anatomy of Melancholy*” which he called “the greatest medical treatise written by a layman”.

Osler said, “By a profession a divine, by inclination Burton was a physician, and there is no English medical author of the seventeenth century whose writings have anything like the same encyclopedic character of a medical condition.”

I will describe my own search for remaining evidence in Oxford for Osler's work on Burton and the reference books he used.

Learning objectives:

1. Describe Osler's search for references to Burton's text
2. Recognize the extent of Osler's work to bring the reference texts together
3. Explain why Osler felt Burton's text was the greatest medical text by a layman

# The John P. McGovern Award Lectureship

## The Enduring Narrative of Clinical Medicine

C. David Naylor

*David Naylor has been President of the University of Toronto since 2005. He earned his MD at Toronto in 1978, followed by a D Phil at Oxford where he studied as a Rhodes Scholar. Naylor completed clinical specialty training and joined the Department of Medicine of the University of Toronto in 1988. He was founding Chief Executive Officer of the Institute for Clinical Evaluative Sciences (1991-1998), before becoming Dean of Medicine and Vice Provost for Relations with Health Care Institutions of the University of Toronto (1999 - 2005). Naylor has co-authored approximately 300 scholarly publications, spanning social history, public policy, epidemiology and biostatistics, and health economics, as well as clinical and health services research in most fields of medicine. Among other honours, Naylor is a Fellow of the Royal Society of Canada, a Foreign Associate Fellow of the US Institute of Medicine, and an Officer of the Order of Canada.*

Physicians live and practice in an era when decisions about patient care are strongly influenced by two forces. The first is ‘evidence-based medicine’ –short-hand for a broad set of concepts that emphasize epidemiological methods and related evaluative sciences. The second is the revolution in biomarkers and biotechnological treatments, derived from advances in genetics and molecular biology. These two intellectual movements exist in an odd equilibrium -- the first dependent on applying averages and probabilities to individuals, and the second driving towards more precise targeting of intervention based on biological profiles of individual patients. In both cases, moreover, there is great residual uncertainty about how best to apply these new insights to patient care.

Unfortunately, this uncertainty has not stemmed the tide of measurement and micro-management of medical care. Partly because of the expense and risk of new medical technologies, more and more third parties now oversee the interactions between professionals and patients. The result is a clinical realm that has become increasingly ‘entzaubert’, in the sense that Max Weber elaborated on that term. Indeed, it seems that doctors and patients alike are often ‘disenchanted’.

I hope not to be accused of vacuous romanticism in suggesting that, at least in part, the clinical realm would be healthier if more attention were paid to the craft of caring for patients. This craft relies on attributes – such as respect, humility, empathy, judgment, and communication – that may be more straightforward for clinical teachers to model than to explain, let alone quantify. However, I believe these attributes are essential to effective clinical care. In particular, they are integral to the process of ensuring that the clinical encounter leads to understanding of the patient’s condition not only as a disease in pathophysiological terms, but as an illness that is embedded in a personal context and social narrative.

These reflections, of course, are far from novel. Similar sentiments can be tracked back centuries in medical writings. They are also encapsulated eloquently in many of Osler’s speeches and essays. Such commentary by Osler may perhaps be seen as contrasting with the relentless skepticism of his magisterial 1892 *Principles and Practice of Medicine*. As is well known, that work was a sustained attack on the dogma of Osler’s day, highlighting many gaps in medical knowledge, and punctuated throughout by the phrase, “No specific treatment” for one condition after another. Behind that commitment to medical science and clinical evidence, however, was a soaring idealism, intellectual honesty, and deep commitment to the betterment of his profession that drove Osler to seek nothing short of a shaking of the foundations of medicine and medical education.

Thus, Osler’s own narrative can itself be seen as a continuing inspiration to those who believe that a deep understanding of the latest advances in the science and technology of medicine, while essential, is far from sufficient for the effective discharge of a physician’s duty to his or her patients.

Learning objectives:

1. Understand the continuing uncertainties of clinical practice in the era of ‘evidence-based’ and ‘molecular’ medicine
2. Appreciate the enduring role of narrative in both clinical care and medical education
3. Explain how these themes briefly to Osler’s context and writings, and to developments in medicine and health care over the last 150 years

## Brain Death and the Harvard Ad Hoc Committee

Robert R. Nesbit, Jr.

*Dr. Nesbit is Professor Emeritus of Surgery at the Medical College of Georgia at Georgia Health Sciences University. He was Chief of Vascular Surgery when he retired in April 2000. Although he is no longer involved in patient care, Dr. Nesbit continues to be active in teaching at the Medical College. He has been a member of the American Osler Society since 2003.*

The first human to human heart transplant was performed by Dr. Christian Barnard on December 3, 1967. "A Definition of Irreversible Coma – Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death" was published in JAMA on August 5, 1968, less than five months after the first meeting of the committee. That four page report, which contained only one reference, listed four specific criteria which the authors said - under specified conditions - determined the "characteristics of a *permanently* nonfunctioning brain". This report, although not entirely without controversy, was widely accepted and soon led to adoption of new state laws acknowledging neurologic death criteria (the first in Kansas in 1970) and ultimately was the primary basis for the federal Uniform Determination of Death Act passed in 1980. Seldom has the rapidly accomplished work of any committee had the widespread and lasting impact of the Harvard Ad Hoc Committee. The criteria they set forth to determine the then new concept of brain death are still (with some modification) the basis of such determinations today. I will discuss the paper, the background of the criteria for brain death, why the committee was formed, who the members of the committee were, why their work was so widely accepted, and some controversy that remains about the committee's work and the concept of brain death.

Learning objectives:

1. Discuss the rationale for formation of the Harvard Ad Hoc Committee
2. Explain the importance of the identities of the members of the committee
3. Tell the source of the single reference in the committee report

## **William B. Bean Student Research Award Lecture**

### **One Man's Passion for Anatomy: J.C.B. Grant and the Founding of an Anatomical Museum**

Margaret Olszewski

*Margaret Olszewski is a 3<sup>rd</sup> year medical student at the University of Toronto. She completed her undergraduate degree in the History of Science, History of Medicine at Yale University and her PhD in the History and Philosophy of Science at the University of Cambridge. Last year, she co-founded the Interest Group for the History and Philosophy of Medicine at the University of Toronto.*

Dr. John Charles Boileau Grant (1886-1973) was Chair of the Department of Anatomy at the University of Toronto between 1930 and 1956. During his tenure, he wrote three anatomical textbooks, the best known of which was *Grant's Atlas of Anatomy* (1943). Currently in its twelfth edition and translated into Italian, Japanese, Portuguese, Spanish and Turkish, *Grant's Atlas* continues to be one of the most widely used anatomical atlases among medical students.

Many of the dissections used for the anatomical drawings contained in this text were preserved in the anatomy museum at the University and are available for study by medical students and anatomical scholars to this very day. However, while there are some writings on the life and work of J.C.B. Grant and his contributions to the study of anatomy, very little published material on the Grant Museum is available – even the exact founding date of the Museum is unknown. A smattering of popular culture references in the media, an even more limited number of academic texts and fragmented oral histories are all that currently capture the history of this seminal collection.

This paper catalogues the history of the anatomical museum at the University of Toronto in the 1930s and 40s. The founding of this museum is described and the role of medical museums in medical education during this period is examined. Using archival holdings at the University of Toronto including University records in the Department and Faculty of Medicine and the Department of Art as Applied to Medicine, and personal collections held at the University, this paper explores: 1) Grant's goals for the collection and the anatomical museum 2) the collaboration between illustrator, dissector and anatomist and 3) student, administrative, and public uptake of and response to the anatomical museum. Through this research, it becomes clear that this educational initiative was as much a testament to one man's passion for anatomy, as it was a product of a conflicted and transitioning time period.

Learning objectives:

1. List the key changes in medical education implemented at the University of Toronto during World War II
2. Discuss the state of anatomical instruction and the rise of medical illustration within the medical curriculum in the early-to-mid 20th century
3. Describe the founding of the Grant Museum and the initial publication of Grant's *Atlas of Anatomy*

## The Evolution of the Medical Journal in the United States: Origins, Roles, and Challenges

Scott H. Podolsky

*Scott Podolsky is Assistant Professor of Global Health and Social Medicine at Harvard Medical School, and Director of the Center for the History of Medicine at the Countway Library of Medicine. His most recent volume, co-edited with Charles Bryan, is entitled Oliver Wendell Holmes: Physician and Man of Letters.*

In 1907, the President of the American Medical Editors' Association, then in its fourth decade, began his Annual Address by declaring that "the fourth estate in the profession of medicine is of importance equal if not superior to any of the other elements whose combination welds it into the most important factor in modern life." Nearly a century later, the former editor-in-chief of the *British Medical Journal* could begin a less optimistic account: "Medical journals, which many imagine to be dull as telephone directories and twice as obscure, influence the lives of everybody – and not always for the better." Historians have devoted volumes to the evolution of American medical research, practice, and education. Yet medical journalism, which provides the chief source of information about such evolution, and which has come to occupy a central role in both the social functioning of the field and the production and dissemination of medical research, has received scant historical attention, despite repeated calls to correct this oversight.

This year's bicentennial of the founding of the *New England Journal of Medicine* – the longest continuously published medical journal in the world - affords opportunity for reflection concerning the enduring role of the medical journal. Journals do not simply disseminate new knowledge about medical theory and practice. Instead, they define, sometimes overtly, sometimes in subtle ways, the scope of medical concern and knowledge, while they articulate norms for the profession and the roles of physicians in society.

Along the way, for two centuries medical journals have on the one hand confronted challenges regarding the freedom from bias of both journals and their authors, manifesting as conflict-of-interest concerns with respect to both industry and sponsoring societies. On the other hand, they have confronted the sheer size, relevance, and utility of the medical literature itself, a challenge that persists today in an era of open access journals and online blogs. It would appear that the future of the journal will depend upon how editors respond to such ongoing challenges.

Learning objectives:

1. Identify the broad history of the role of the medical journal in the production and dissemination of medical knowledge in the United States
2. Identify the broad history of the role of the medical journal in articulating the scope of "medicine" broadly as well as evolving professional norms
3. Identify the enduring challenges - both internal and external to journal production – faced by medical journals over the past two centuries

## Little on *Little's Disease* and 150 Years of Catastrophic Misunderstanding

Tonse N. K. Raju

*Dr. Raju, Professor of Pediatrics at University of Illinois in Chicago until 2002, now works at NIH as Medical Officer. A former president of the Society of Medical History of Chicago, he has written and taught medical history for a long time. He has authored The Nobel Chronicles (2001) and The Importance of Having a Brain: Tales from History of Medicine (Spring 2012).*

On October 2, 1861, William John Little, a London orthopedic surgeon, presented at the Obstetric Society of London a talk titled, *On the Influence of Abnormal Parturition, Difficult Labours, Premature Birth, and Asphyxia Neonatorum, on the Mental and Physical Condition of the Child, Especially in Relation to Deformities*. As the title indicates, Little presented, from his practice, a large series of children with physical and intellectual impairments who also had history of adverse perinatal events and asphyxia. Little then proposed that birth-related adverse events including asphyxia were the cause for children's physical and intellectual impairments. His talk was a "learned bombshell"—stunned obstetricians politely applauded, but strongly disagreed. They said that Samuel Johnson "... was born almost dead and did not cry. . . yet he became synonymous with intellectual grandeur." Thus began 150 years of controversy about the etiology of a group of disorders which, in 1889, William Osler christened *The Cerebral Palsies*. During this time some scientists agreed with Little, while others argued that asphyxia was an "association"—not a proximate cause of CP. They proposed that CP was probably "congenital" (inherited), or due to postnatal infections, such as meningitis, or even teething.

Why was Little misunderstood? After studying Little's biography, books, lectures, and the history of neuroscience and of biostatistics in the 20<sup>th</sup> century, I propose some answers: 1) the neuronal doctrine of cerebral function and the functions of spinal cord were unknown at Little's time, making it difficult to explain the complex and changing clinical features of CP; 2) as an orthopedic surgeon, he did not conduct autopsies, but relied upon reports from others to correlate the pathological findings with clinical features in his patients; 3) Little's research was retrospective and observational, with all its limitations, such as ascertainment and recollection bias, lack of controls with history of asphyxia, and lack of statistical methods (such as odds ratios, or relative risks); 4) common postnatal disorders (e.g., poliomyelitis, encephalitis, meningitis) added to the difficulties in ascribing a single cause for any childhood disability; 5) it is likely that most people read only the title of Little's talk, not his entire presentation, in which he had clearly stated that *a great majority of apparently stillborn infants . . . recover unharmed*; and 6) possibly obstetricians disliked that an *orthopedic surgeon* was pointing out their errors!

How accurate was William Little? In 1989, after reassessing all of Little's cases, neurologist Dr. P. Accardo concluded that 57/63 (90%) of Little's patients had CP; 34/ 57 had cerebral diplegia; 13 hemiplegia; 8 quadriplegia; and 1 each double hemiplegia and choreoathetosis. Twenty-six of 57 (46%) were preterm, and in 33/57 (54%) there was a maternal history of prolonged labor or difficulties during birth.

Most of us would be happy with such a fine diagnostic accuracy.

Learning objectives:

1. List many reasons for the controversy concerning the etiology of CP
2. Explain the limitations of retrospective studies
3. Understand, in an historical context, the difficulties of making causal associations between exposures and outcomes for complex, multi-factorial conditions



## **Physician Civil Disobedience: A Historical Perspective on Current Controversy**

John and Katie Ray

*John Ray is a current chief resident in the University of Wisconsin Dept of Family Medicine in Madison. Katie Kucera Ray is a 2nd year resident in the UW DFM as well, and was recently published in The Persisting Osler IV. Both are graduates of the University of Texas Medical Branch and were student members of the Academy of Oslerian Medicine. The two got engaged while attending the 2009 AOS Annual Meeting in Cleveland.*

Physicians are in a unique position to both appreciate how social factors and injustice affect the health of our communities and be in a position to effect change. As Virchow noted, “[P]hysicians are the natural attorneys of the poor, and social problems fall to a large extent within their jurisdictions.”

There are many types of political activism--Osler lobbied the political leaders of Baltimore with a provocative imploration to his “long-suffering, patient, inert fellow-citizens.” Other physicians have resorted to more extreme measures to voice their political opinions. Our residency program was recently involved in controversy when a small group of physicians attended a political protest and distributed “sick notes” to union protesters--making headlines on Fox News. In the whirlwind of emotion and accusation, we did what any good student of Osler would: we began asking what role physicians, as inherent community leaders, have historically played in political controversy and civil disobedience.

In 1943, over six thousand Dutch physicians unanimously rejected Nazi orders and turned in their medical licenses, though it meant imprisonment. Numerous doctors during the Vietnam era helped soldiers evade the draft as a private way of expressing their disapproval of the war, while contemporary doctors are being arrested in Syria and Bahrain for treating wounded dissidents. Many doctors have participated in illegal acts (abortion, euthanasia, clean-needle exchanges, etc.) when they felt it was in the best interest of their patient. What happens when the legal system is in conflict with a physician’s commitment to their patients? What are the defining differences between these scenarios? How can a historical perspective improve our understanding of the events at the Wisconsin protests and help us find meaningful ways to balance our personal, professional, and political responsibilities.

Learning objectives:

1. Define civil disobedience
2. Explore historic examples of physician involvement in civil disobedience
3. Discuss instances of Osler’s involvement in acts of political controversy
4. Apply our discussion to the recent UW family practitioners’ involvement in writing “illegal” sick notes

**Abraham Jacobi and William Osler:  
Their Contributions to the Organization of Pediatrics as a Specialty**  
C. Joan Richardson

*Dr. Richardson is a neonatologist who is Professor and Chair of the Department of Pediatrics at the University of Texas Medical Branch, Galveston.*

The late 19<sup>th</sup> century was a risky time to be a child in America. Infant mortality was 200 per 1000 births. Only one in five children survived to their fifth birthday. Summer diarrhea killed thousands of babies yearly. Scarlet fever, smallpox, measles, diphtheria, whooping cough, cholera, and tuberculosis ran rampant, as did rickets and scurvy.

On September 18, 1888, in Washington, D.C., 14 physicians met to form the American Pediatric Society, an organization to address pediatric issues and clinical problems. Osler was one of the original 14, and recruited others to form the group of 43 physicians who became the founding members of the APS. Present at this historic meeting were America's first pediatricians and subsequent founders of pediatrics in the United States.

One of them, Abraham Jacobi, was a remarkable individual and is generally regarded as the "Father of American Pediatrics." A life-long zealous democrat and rebel, he was born in Germany in 1830. At age 21, just after completing medical school, he was arrested and imprisoned for involvement in revolutionary activities. After two years, he escaped prison, fled to England, then Boston, and finally to New York City where he set up practice in the teeming immigrant section of the Bowery. He built his practice, charging 25 cents for an office visit, 50 cents for house calls, and \$5 for a hospitalization if the patient could afford it.

He was appointed Professor of Infantile Pathology and Therapeutics at New York Medical College in 1860 and in 1870 became Clinical Professor of Diseases of Children at Columbia. In 1880 he established and was president of the Section on Diseases of Children of the American Medical Association. In 1888 he became the first president of the American Pediatric Society. His friend, Osler, served as the fourth APS president. In 1912 at the age of 82, Jacobi was elected president of the AMA, the first foreign-born physician and pediatrician ever to serve as president.

He was an outspoken critic of the unsound medical practices of the day. He suggested keeping infants undressed on hot days. He adamantly supported breast-feeding because cow milk was often either contaminated or adulterated. He recognized that the survival of breast-fed babies exceeded bottle-fed babies. He insisted that if mother's milk were unavailable, raw milk should be fed only when boiled until it bubbled. Jacobi established clean milk distribution stations, opposed raising children in orphanages, opposed prohibition, supported birth control, campaigned for admission of women to medical schools, and worked for advancement of minorities.

Jacobi had a tragic personal life. His first 2 wives died during childbirth. His third marriage was to Dr. Mary Putnam, herself a pediatrician and a remarkable person in her own right. Of their three children, only his daughter lived to adulthood. One son died at birth; the other at age 8 of diphtheria-- ironic because Jacobi was an expert on diphtheria and pioneered using tracheostomy and endotracheal intubation in the care of patients with diphtheria. Osler, Jacobi, and Mary Putnam Jacobi were life-long friends. Osler liked and respected Jacobi and referred to him as "the lion head of the tribe of Judah." They had many things in common. They were bibliophiles and officers in the Association of Medical Librarians. Both enjoyed practical jokes. They shared a common bond of having lost a child.

To attend Jacobi's 70<sup>th</sup> birthday celebration, Osler traveled to New York. His alter ego E. Y. Davis was also there to participate in the proceedings. For Osler's 70<sup>th</sup> birthday, Jacobi wrote that Osler was "eminently the one, the indispensable man in Medicine." Just before he left for Oxford, Osler spoke at the funeral of Mary Jacobi, likening her to a modern day Trotula. After brilliant careers, which shaped the future of medical practice, both Osler and Jacobi died in 1919.

Learning objectives:

1. Discuss Abraham Jacobi's contributions to the specialty of Pediatrics
2. List what Jacobi and Osler had in common
3. Describe child health in the late 19<sup>th</sup> century

## **Dr. Hunter Holmes McGuire (1835-1900): Virginia Surgeon**

Charles S. Roberts

*Dr. Roberts was educated at Vanderbilt and Emory Universities, and trained in cardiothoracic surgery at The University of North Carolina. He practices cardiovascular surgery at Valley Health in Winchester, Virginia.*

Hunter Holmes McGuire was born in Winchester, Virginia, in 1835, the oldest son of a prominent surgeon who had trained under Philip Syng Physick, "the Father of American Surgery." McGuire, the father, established the first medical college in Virginia in 1826. McGuire, the son, graduated from Winchester Medical College in 1855 and was made Professor of Anatomy. He matriculated in Jefferson Medical College in 1859, but soon returned to the South with some 300 medical students studying in Philadelphia. McGuire obtained a second medical degree from the Medical College of Virginia (MCV) in 1860. When the Civil War began, McGuire was appointed the Medical Director of Stonewall Jackson's Corp in the Army of Northern Virginia.

The American Civil War (1861-1865) was conducted with no prior international agreement on the treatment of the wounded, or prisoners of war, or medical officers, which led to a disorderly approach by both governments. One exception was the treatment of medical officers, based on the "Winchester Agreement," authored by McGuire after the 1<sup>st</sup> Battle of Winchester in May 1862. On entering Winchester as victor, General Jackson with Dr. McGuire encountered 6 Union medical officers attending the sick and wounded. Four days later Jackson's Army departed, leaving the Union medical officers "unconditionally released," on their honor to use their "best efforts to have this principle established, viz., the unconditional release of all medical officers taken prisoner of war hereafter." This principle of medical officers as non-combatants was adopted by the opposing American governments and was later incorporated in the Geneva Conventions.

After the Battle of Chancellorsville, McGuire amputated the wounded arm of General Jackson, described in a paper McGuire published called "Death of Stonewall Jackson." After the war, McGuire was Chair of Surgery at MCV in Richmond till 1878. In 1893, McGuire with others founded a new medical school, like his father had done, called University College of Medicine, which merged with MCV 20 years later.

Osler and McGuire were together at the Centennial Exercises of the College of Physicians in Philadelphia in 1887. Cushing described their relationship as a friendship of many years. McGuire was president of the American Surgical Association (1887) and the American Medical Association (1893). Osler visited McGuire during his last illness. In his will, McGuire left Osler "a set of Jenner's Vaccination Monographs---all autograph copies to his friend Shrapnell." McGuire was revered in Virginia and is memorialized in Richmond with a bronze statue in Capital Square, near the statue of Stonewall Jackson.

Learning objectives:

1. Explain the influence of McGuire on the status of medical officers captured in war
2. Explain the role of McGuire in the American Civil War
3. Describe the post-war accomplishments of McGuire

## Laennec, Osler and the Glass Stethoscope

Milton G. Roxanas

*Dr. Roxanas graduated from University of New South Wales in 1968. He is a Fellow of the Royal Australian and New Zealand College of Psychiatry (1974), psychiatrist at various hospitals, lecturer at University of Sydney, and the author of works on the frontal lobes, serotonin syndrome, venlafaxine hyponatraemia, steroid psychosis, etc. His medical history publications include writings on Osler, Cushing, and Australian medical history. He collects books, medical prints, medical instruments and Aboriginal art.*

The diagnosis of disease has occupied physicians from antiquity and various means were devised to do this. Observation, palpation, succession, the pulse, measurement, uroscopy, astrology and later percussion were used with varying success. It was not until Rene Theophile Hyacinthe Laennec (1781- 1826) that a non- invasive way was devised to examine more accurately the inside of the body.

The history of breath sounds date to antiquity, being mentioned in the Ebers Papyrus (c.1500 BC), the Hindu Vedas (c.1400-1200 BC), and in the Hippocratic writings (c.400 BC). Joseph Leopold Auenbrugger (1772-1809) introduced percussion, using observations he made of his father who tapped beer kegs to determine the fluid level. Jean Louis Corvisart (1755-1821) learnt Auenbrugger's method, translated his book into French and advanced his method by stressing direct auscultation by pressing his ear to the chest. Corvisart was Laennec's teacher who taught him these techniques. One day in 1816, when Laennec was frustrated with an obese patient, he took a notebook from a student, rolled it and listened to the chest.

Laennec made his own stethoscopes, sold them with his book, and provided "do it yourself" instructions. He made stethoscopes from wood, glass, metals, "goldbeaters skin" (calf intestine) etc. He also described numerous breath sounds.

I am unaware whether Osler ever used a monaural stethoscope, though Cushing writes that "single tube stethoscopes" were in use in Philadelphia at the time. We know that he popularized the binaural stethoscope, and had one made when he was in London in 1885. A good description of it is given in Edward's article referred to in the footnote in Cushing's biography. Osler did say "with the stethoscope begin the days of physical diagnosis".

Several authors refer to glass stethoscopes without saying much about them. Austin Flint (1812-1886) at first preferred the glass stethoscope but later changed his mind in 1886. They are poor conductors of sound but glass has the advantage of easy cleaning and makes no noise on skin or clothes.

There are three glass stethoscopes in existence, as far as I know. One in the museum of the Royal College of Physicians in London is short stemmed and probably used in obstetrics. I have been able to collect two long stemmed glass stethoscopes, sometimes known as "epidemic" or "pauper's" because their length was used to interpose distance with an infected, dirty and poor patient.

Learning objectives:

1. Describe the evolution of auscultation
2. Enumerate the various materials used to make stethoscopes
3. Describe the advantages and disadvantages of using glass stethoscopes

## **The Nexus between Sir William Osler and 'Fat Joe'; The Pickwickian Syndrome and Sleeping Beauty AKA 'The Big Chief'**

George Sarka

*George Sarka, MD, MPH, CPH, FACP, FACR, FACPM, is an Associate Clinical Professor of Medicine at UCLA, Governor of the ACP, Southern CA, Region II (2008-2012), Past President of the LA Neurological Society (2006-2009) and the LA County Medical Association-District 1(2006-2008) and a Diplomate in 11 subspecialties: Internal Medicine, Rheumatology, Neurology, Geriatrics, Sports Medicine, Headache Medicine, Emergency Medicine, Occupational Medicine, Public Health/General Preventive Medicine and Public Health and Hypertension. He received his MDCM from McGill University in 1980, MPH from UCLA in 2003 and is presently a DrPH Candidate in Public Health at UCLA.*

Sleep apnea refers to a collection of medical conditions and syndromes that have periods of temporary cessation of breathing as its key manifestation. One of the first accounts of sleep apnea was written by Charles Dickens in 1837 and titled the Posthumous Papers of the Pickwick Club which featured a character, 'Joe the fat boy' who showed all of the classic symptoms of Sleep Apnea and was the first published documentation of a serious sleeping condition. The novel brought public and medical attention to sleeping disorders and daytime sleepiness.(1)

The famous early 20<sup>th</sup> century physician, Sir William Osler observed the association between obesity and hypersomnolence and described the obesity-hypoventilation syndrome in 1918. He coined the term 'Pickwickian syndrome' based on the literary reference of Charles Dickens to Joe in the Pickwick Club.

The above highlights the importance of the historical medical case of William Howard Taft, the 27<sup>th</sup> President of the United States (1909 -1913). His medical condition was the *sine qua non* for obstructive sleep apnea (OSA). Taft affectionately called "Sleeping Beauty" by his wife and "the Big Chief" by his staff suffered from OSA with morbid obesity, excessive daytime sleepiness, snoring, hypertension and a marked deterioration in cognitive and psychosocial impairment. Even Taft himself stated the following about his condition upon losing weight: "I lost that tendency to sleepiness, which made me think of the fat of Pickwick. I have better color and my ability to work is greater."(2) Ignorance of OSA and its sequelae allowed the United States Congress officially never to question Taft's ability to govern. Taft's OSA dramatically improved once he lost weight after his presidency and became a Supreme Court Justice.

Osler had a long-distance relationship with Taft, meeting him in 1902 on sojourn with his family in small Quebec town of Murray Bay and on March 11, 1905 where they were co-feted at a dinner.

When Osler coined the term "Pickwickian", he provided an identifiable name to a common medical problem. This important contribution gave the medical world an understandable term that could be used to identify and classify respiratory sleeping disorders, and therefore, made Osler a pioneer in that field.

(1)Dickens, Charles, the Posthumous Papers of the Pickwick Club, 1837.

(2)Taft, William Howard on June 28, 1909.

Learning objectives:

1. Examine Osler's role in the identification of obstructive sleep apnea
2. Explain the bibliophilic nature of Osler in naming this medical syndrome
3. Discuss the nexus between Osler and President William Howard Taft

## High Blood Pressure: Deciphering the Pulse

Barry D. Silverman

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“If it is true that certain statisticians know little about medicine, it is unfortunately even more true that most physicians know little or nothing about statistics.”

M. Loeper, 2<sup>nd</sup> International Congress of Life Insurance Physicians (1939)

Osler summarized his concept of hypertension in an address titled *High Blood Pressure: Its Associations, Advantages, and Disadvantages* delivered to the Glasgow Southern Medical Society in November, 1912. Riva-Rocci had developed the pneumatic cuff in 1896 and Korotkov described the auscultatory measurement of BP in 1905. Sphygmomanometry developed from a procedure of uncertain and doubtful value to a method of examination that by 1912 was nearly universal.

The ancients recognized the importance of high blood pressure through their meticulous examination of the pulse. *The Yellow Emperor's Classic of Internal Medicine* (2698-2598 B.C.) states: “Nothing surpasses the examination of the pulse, for with it error cannot be committed... The heart is in accord with the pulse. The complexion of a person shows when the heart is in a splendid condition. Hence if too much salt is used in food, the pulse hardens, tears make their appearance and the complexion changes.”

Modern understanding of hypertension begins with Richard Bright's report in 1836 of patients with kidney disease. Bright noted the association of dropsy and hypertrophy of the heart and speculated the increased resistance of the contracted kidney caused hypertension. Subsequent investigators concluded the full hard throbbing pulse of hypertension was not only related to renal disease but could be associated with atherosclerosis. The elevated blood pressure was essential to push the blood through the narrowed arteries. This concept was central to Osler's understanding of the disorder.

The end of the 19<sup>th</sup> century was the period of experimental medicine and clinical pathologic association. Osler and his colleagues were treating patients with symptoms, but in the early 19<sup>th</sup> century life insurance companies were developing a new class of physician. Physicians working for insurance companies began to look at patients with asymptomatic disorders, which they referred to as “obscure diseases.” Insurance physicians were examining patients who came to them for economic reasons not symptoms. They developed a new responsibility for medicine, a science of “diagnosis and prognosis”. The insurance companies began to collect detailed statistical data about professions, lifestyle, family history, illness, and blood pressure.

Hypertension is probably the most common disease in the world. It affects large populations on every continent. Yet the importance of treatment was only recognized in the second half of the twentieth century. Osler believed hypertension could be beneficial and this belief contributed to the persistent notion that hypertension was essential and necessary part of the aging process. It required the science of statistics and a new physician, the epidemiologist, to recognize the importance of treating hypertension. Eugene Braunwald commented that the greatest advance in cardiology in the 20<sup>th</sup> century was the recognition of risk factors. The statistical study of hypertension led the way to understanding the influence of risk factors in cardiovascular diseases.

Learning objectives:

1. Explain the science that was the basis of Osler's understanding of high blood pressure
2. Examine how physicians driven by economic forces identified a disease that confused the clinician and laboratory investigator
3. Evaluate the impact of medical instrumentation on recognizing and understanding hypertension

## **William Hillebrand, M.D. Master Botanist of the Hawaiian Islands**

William A. Sodeman, Jr. & William A. Sodeman, III

*Dr. William A. Sodeman Jr. is Emeritus Professor of Medicine at the University of Toledo, College of Medicine, Toledo Ohio. William Sodeman III is a lecturer at the University of Toledo College of Law.*

William Hillebrand was born in Nieheim, Westphalia, in November, 1821. His father, Franz Joseph Hillebrand, a judge at the Provincial Court in Paderborn, vowed his son would become a physician. The environment surrounding Nieheim, which bordered on the Teutoburger Forest, was natural. Hildebrand studied at the local Gymnasium Theodorianum (860 AD) and there developed a passion for botany. On graduation he was accepted for medical school at the University of Goettingen. He then moved to Heidelberg. He finished his medical degree at Friedrich Wilhelm University, now the University of Berlin, on October 10, 1844 with his dissertation *De Vi Partum Movente*.

He returned to Paderborn with an active practice treating patients with pulmonary disease who came to Paderborn's Ottilief-Mineral Spring for cure. In March of 1848 he left, having contracted pulmonary tuberculosis. He left Hamburg as ship's physician headed for Australia arriving February 10, 1849. He entered medical practice and began active botanizing. After six months he left for the Philippines, Australia not being kind to his lungs. Neither the Philippines nor San Francisco, his next stop, improved his health. In 1850 he arrived in Honolulu and shortly began coughing blood. He was cared for by an American physician, Wesley Newcomb, and with the return of his health he married Newcomb's daughter Anna and entered the practice of medicine. He was to remain in Hawai'i for 22 years during which his contributions to the islands were transformative.

Hillebrand maintained an active medical practice. He was popular and successful, becoming physician to the royal family. He urged the King to found a hospital for Hawaiians. No public hospital existed at that time. In 1859 Queen's Hospital opened and Hillebrand was elected Chief Physician, a post he held until he left Hawai'i 11 years later. He was deeply concerned with the problem of leprosy, which had become endemic. His sole medical writing was a paper on the contagious nature of leprosy.

His botanical work became his most enduring contribution to the islands. He purchased 13 acres of land in the Nu'uuanu Valley and built a summerhouse there. He began a garden, which through his introduction to Sir William Hooker of Kew Gardens became the recipient of plants and trees from throughout the tropical world. The garden exists today as Foster Botanical Gardens. In return he sent many plants to Kew. His masterwork on Hawaiian botany, *Flora of the Hawaiian Islands*, was published in 1888 and remains available to this day on Amazon.

His venture into nation building involved arranging the migration of 530 Chinese workers establishing the Chinese colony as an integral part of Hawaiian culture. After he left Hawai'i he spent time in Madeira where he recruited 8000 farm workers to move to Hawai'i, which at that time had a population of 80,000. The Portuguese brought with them the Portuguese guitar, which became the Hawaiian ukulele, another enduring element of Hawaiian culture.

Dr. Hillebrand remains the largely unappreciated father of ethnic and botanical diversity in the Hawaiian Islands.

Learning objectives:

1. Outline the development of cultural diversity on the Hawaiian Islands
2. Examine the introduction and spread of leprosy on the Hawaiian Islands
3. Discuss man's role in the development of botanical diversity on isolated island environments

## Osler and Clinical Microscopy

Marvin J. Stone

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William Osler was introduced to the microscope as a schoolboy by his mentor, Reverend W. A. Johnson. His interest developed further under the influence of Dr. James Bovell. Through Reverend Johnson and Dr. Bovell, Osler acquired a copy of Lionel Beale's *How to Work with the Microscope*. Shortly after receiving Beale's book, young William decided to become a doctor rather than a member of the clergy. Osler's first publication at age 19 was entitled, *Christmas and the Microscope*. In the 1869 paper he remarked, "The earth has put on her winter robes, and under them she hides most of those objects which in summer please and delight us so much. A cheerless prospect for microscopists, one would think... Upon putting a slide under the microscope before I had it properly focused, I saw the dim outline of some little creature kicking and struggling as though it were caught in a net."

After 2 years of medical school in Toronto, Osler moved to McGill. His first clinical paper, written while a student, described the gross and microscopic findings of a patient with breast cancer. His graduation thesis in 1872 dealt with histopathology. By the time he received the MD degree, Osler was an accomplished microscopist. He used this skill to great advantage in postgraduate study and became a staunch advocate of the value of the microscope in medicine. Osler taught microscopy to students at McGill, brought the first microscope to the University of Pennsylvania Hospital, and established the Clinical Microscopy Laboratory at Johns Hopkins.

Osler's experience with the microscope led to important contributions to hematology. He was among the first to recognize platelets as the third formed element of the blood and documented their importance in thrombosis. After some initial missteps, Osler confirmed Laveran's discovery of malaria diagnosis from peripheral blood smears. This advance led to examination of blood films in all cases of fever in Philadelphia and routinely in Baltimore. Osler's studies on pernicious anemia have been largely neglected, but his descriptions of polycythemia vera and hereditary hemorrhagic telangiectasia popularized both disorders.

William Osler's contributions to hematology, although only a small portion of his massive legacy, were indeed substantial. Ever the clinician microscopist, he introduced clinical diagnostic microscopy into North American medicine. Laboratory observations were an extension of those made at the bedside. Proficiency with the microscope was considered as important as accurate auscultation. The Microscopy Laboratory at Johns Hopkins was adjacent to the wards where medical students and house officers could study their patients' blood and other body fluids. Osler brought the microscope to the clinic, enabling physicians to arrive at accurate diagnoses and rational therapy for patients.

A special meeting of the Johns Hopkins Historical Club was held in 1925, at which time a memorial plaque was presented to the hospital by 50 of Osler's colleagues and friends. Dr. R. Tait McKenzie, the artist who executed the plaque, said it was "intended to represent Dr. Osler at a clinical lecture. The hand is stretched out to his microscope that was always his faithful companion."

Learning objectives:

1. Discuss Osler's early experience with microscopy
2. List 2 examples of Osler's contributions to hematology
3. Examine the role of clinical microscopy in Osler's career



## William B. Bean Student Research Award Lecture

### The English Reformation and the Birth of London's Royal Hospitals

John Stroh

*John Stroh is a second-year student at the University of Kansas School of Medicine. He graduated cum laude from Harvard College in 2009 with an A.B. in History & Literature. After graduation, he spent a year as a John Colet Fellow at St. Paul's School in London before returning home to pursue a career in medicine.*

In 1538, at the height of the dissolution of the monasteries, a committee of powerful Londoners led by the Lord Mayor, Sir Richard Gresham, wrote to King Henry VIII, pleading with the monarch to place several friary houses and monastic hospitals under municipal control rather than leave them lying empty. The hospitals, they wrote, had originally been founded to provide charity for the poor and should be reopened to fulfill this mission for the sake of "the myserable people lying in the streete, offending every clene person passyng by the way with theyre fylthye and nastye savors."

The situation in London was indeed dire; many English hospitals, the majority of which had been run by religious orders, had been dissolved along with the monasteries beginning in 1536. Although they were often difficult to distinguish from other monasteries and religious houses and, like the monasteries, sometimes harbored the abuses that Henry's government sought to eradicate, these hospitals had provided charitable relief to England's poor and sick for centuries. As one after another disappeared, the citizens of London faced the dual problem of accommodating their own sick poor along with those who flocked to their city from outlying areas.

The loss of the hospitals in the late 1530s could not have come at a worse time; the realm had for several decades been experiencing dramatic demographic and social shifts, including a rise in poverty which it struggled to handle. The dissolution of the monasteries only exacerbated some of these issues and made the concomitant closure of hospitals even more problematic. To make matters worse, the Reformation did not immediately spark a renaissance in charitable attitudes among the populace, at least in the eyes of some reformers. Recognizing the dangerous combination of a rapidly-growing population of poor people and strained or absent services, the City of London repeatedly lobbied the Crown to sell it several of the dissolved hospitals to be reopened as secular foundations under the City's control. This persistence ultimately succeeded and led to the establishment or reestablishment of the so-called Royal Hospitals: St. Bartholomew's, St. Thomas Southwark, St. Mary Bethlehem, Christ's, and Bridewell. St. Bartholomew's and St. Thomas's, in particular, helped usher in a new era of English medicine, in part by employing – and thus providing a fertile training ground for – physicians and surgeons.

While historians have recounted the dissolution and eventual resurrection of the hospitals, few, if any, have thoroughly chronicled the period of close to eight years (c. 1540-1547) during which nearly all of London's hospitals remained closed. London's livery companies, which grew out of the medieval trade guilds, had an immense influence on the affairs of the City, yet their part in the City's efforts to secure the hospitals has been largely overlooked in previous histories. I investigated the role played by the preeminent company, the Worshipful Company of Mercers (of which Sir Richard Gresham was a member), in the City's effort to provide medical care for the sick poor.

Learning objectives:

1. Describe the role of hospitals in sixteenth-century English medical practice, both before and after the Reformation, and how English hospitals compared to their Continental counterparts
2. List some of the major demographic and economic changes that occurred in England in the late 15th and early 16th centuries and explain how they strained the realm's existing systems of poor relief
3. Explain the role of the livery companies within the social and governmental framework of the City of London

## The Chain Saw During the American Civil War

Kenneth G. Swan & Robert A. Vietrogoski

*Kenneth G. Swan MD, COL MC USAR (Ret.), is Professor of Surgery, UMDNJ/NJMS, Newark. He is a veteran of Vietnam and Desert Storm. He is president of the Medical History Society of New Jersey. Robert A. Vietrogoski MLS, is the head of Special Collections, UMDNJ.*

The American Civil War caused the most killed in action (KIA) and wounded in action (WIA), as a percentage of population, of any US war before or since. Lethality of wounds was 33%, also the highest in US history. Surgery was performed at all levels of care and general anesthesia was readily available. The most common operation was extremity amputation. An estimated 60,000 amputations were performed, also a record. The most common sites were above the knee (AKA) and below the knee (BKA). Operative mortality averaged 44%.

Wounds were caused by muzzle loaded rifles firing 58 caliber "Minie balls", (500 grains, 980 ft./s), accurate over several hundred yards. Comminuted fractures of long bones and associated soft tissue injuries were treated with amputation under chloroform anesthesia. Wounds were closed primarily. Prosthetics and rehabilitation were primitive. Some favored "excision" of the injured bone, preserving the distal part but shortening limb length. The "chain saw" enabled excision through a relatively small incision in the limb, as opposed to that required for the standard bone saw.

This innovative osteotome was introduced by a Scottish obstetrician, Dr. John Aitken of Edinburgh, in 1785. He attached handles to an 18 inch length of the chain used in clocks and, passing it back and forth, was able to transect the symphysis pubis, his goal in the treatment of traumatic cephalopelvic disproportion, a cause for fetal and maternal mortality. Alternative contemporary techniques all too often injured urethra and bladder. The chain saw gained in popularity and found favor in other disciplines and countries, including the US. Exact numbers are unknown, but an estimated 7,000 long bone excisions were performed with the chain saw in our Civil War.

The disadvantages of the chain saw, jamming and link breakage, prompted the Italian obstetrician, Leonardo Gigli, in 1894 to invent the saw that bears his name and for the same purpose, symphysotomy. Two stout wires, loosely wrapped about each other, are in turn wrapped relatively tightly with a fine wire, simulating teeth. To and fro movement of the resultant cable will divide any bone. It was adopted by neurosurgeon, Dr. Harvey Cushing, because of its unique suitability for craniotomy. It has been my "saw of choice" for extremity amputation on the battlefield as well as the trauma center in peacetime. I even carry one in my "black bag"!

Learning objectives:

1. Identify the magnitude of extremity amputation in the American Civil War
2. Discuss the treatment of extremity wounds in America's Civil War
3. Explain the "chain saw" and its use in America's Civil War

## Surviving Bataan: The Art of Ben Steele

Herbert M. Swick

*Dr. Swick is Research Professor at The University of Montana and former Executive Director of the Institute of Medicine and Humanities. Though retired, he continues to teach at UM and in the WWAMI Program.*

On December 8, 1941, only ten hours after they attacked Pearl Harbor, the Japanese began their assault on the Philippines by bombing Clark Field, an Army Air Corps base. A land invasion two weeks later forced American and Filipino troops slowly to retreat to the southern tip of the Bataan Peninsula. After weeks of fighting, almost 76,000 American and Filipino troops surrendered, the largest defeat in U.S. military history. American prisoners of war endured years of brutal treatment, beginning with the infamous 67 mile long Bataan Death March. Ben Steele, a 24 year old army private stationed at Clark Field, remained a prisoner of war for 41 months, until the end of the war. He survived numerous harsh environments in prison camps and work details, and for the last year of the war, as a slave laborer in a coal mine in Japan. He suffered from multiple illnesses, including malnutrition, severe beriberi, malaria, septicemia, and multiple bouts of dysentery. He spent almost 18 months in Bilibid Prison, a deserted Filipino prison in Manila that was converted to a hospital for prisoners.

While at Bilibid, Ben Steele began to draw as a means to survive. First he drew on the floors and walls with bits of charcoal from a cooking fire, then on scavenged scraps of paper with small stubs of pencils. After repatriation and recovery, he trained as an artist at the Cleveland Institute of Art.

Ben Steele's drawings and paintings comprise the most complete visual record of the experiences of American POWs in the Pacific Theater during World War II, since photographs are quite scarce. This presentation will feature many of these compelling images that document the story of the Bataan Death March, the conditions of life as a Japanese captive and the often brutal treatment by the guards. The drawings depict with surprising accuracy many of the medical problems suffered by Ben and the other prisoners. Finally, and most compellingly, the works show the tremendous role of art as a means to heal and to forgive.

Ben Steele, who is now 94, is still creating art. Even today, he can pick up a sketch book and, in a few strokes, there appears an American prisoner, a Japanese guard, something he experienced over 70 years ago in the Philippine jungles. Ben has said of his images of war: "I viewed it as somewhat of a passion. I had a story to tell and I put it down the best I could, so people could see what some of the soldiers went through in WWII.... We were the first soldiers to go into battle in WWII, and we're some of the ones that paid a terrific price for being unprepared."

Learning objectives:

1. Gain insight into the harsh realities of American POWs in the Pacific Theater of WWII
2. Appreciate the role of art in documenting the full range of human experience
3. Understand the power of art to promote forgiveness and healing

## **The Association of Medical Officers of the Army and Navy of the Confederacy, 1898-1917: The Last Repository of Confederate Medicine**

Michael C. Trotter

*Michael C. Trotter, M.D. practices cardiothoracic and vascular surgery in Greenville, Mississippi. He maintains an active interest in medical history and has special interests in Civil War medicine and surgical history.*

Organizing Confederate physicians professionally was undertaken four times. The initial effort to organize occurred in August, 1863 under the leadership of Dr. Samuel Preston Moore. Proceedings were published in the *Confederate States Medical & Surgical Journal*, but the organization ceased to exist prior to the end of the war. The first post-war (second overall) attempt at organization occurred in Atlanta in May, 1874 and was called the Association of Medical Officers of the late Confederate Army and Navy. This organization met again in Richmond in October, 1875 and was dormant until interest resurfaced in 1890. At the second reunion of the United Confederate Veterans in Chattanooga in 1890, Dr. Joseph Jones attempted another (third overall) organizational effort by presenting "Brief Reports of the First Reunion of the Survivors of the Medical Corps of the Confederate Army and Navy." There is no record of any further meetings. As the original records located in the office of the Surgeon General of the Confederate States of America were destroyed in the Richmond fire of April 2, 1865, there was great interest and enthusiasm from these Confederate medical veterans to organize any available records and record their wartime experiences throughout all of these post-war efforts at organization.

In July, 1898, in Atlanta, a fourth and successful attempt was made with the founding of the Association of Medical Officers of the Army and Navy of the Confederacy. A concerted effort was made to remain a professional medical veterans association during the era of the Lost Cause. In 1900 the *Southern Practitioner* became the official publication of the society and published the proceedings of the annual meetings. These proceedings are a unique archive of Confederate medicine. Many prominent and respected practitioners of regional and national renown were active in this association.

Learning objectives:

1. List the historical evolution of Confederate medical professional organizations
2. Explain and contrast the Lost Cause mentality as it relates to Confederate medical veterans
3. Discuss medical care during the Civil War in the context of the Confederate health care providers

## Mungo Park: Surgeon and African Explorer

Robert P. Turk

*Dr Turk graduated from the Medical College of Alabama. He retired from the Air Force with 24 years of service. For the following 20 years he was a Clinical Professor in Wright State University's Integrated Program in General Surgery, and for the past 12 years he had been the Surgery Clerkship Director.*

Mungo Park was born Foulshiels, Scotland 1771, the 7<sup>th</sup> of 13 children. Although his father was a tenant farmer he provided tutors for his children. Mungo went to grammar school in Selkirk and later apprenticed there with a surgeon, Dr. Anderson. He received his medical degree from the University of Edinburgh and also did some botanical studies on the flora of Scotland. He then went to London to seek his fortune and lodged with his brother in law who was a noted botanist. Through his political connections he was assigned as a ship's surgeon on a voyage to Sumatra. While there he made some discoveries in both flora and fauna and, on his return to England, he presented these to the Linnean Society. A group of businessmen, in the hopes of establishing other venues for the sale of British goods, had recently formed the African Geographical Society. They tapped Mungo Park as a likely explorer to get more details on a mysterious river called the Niger in West Africa. Mungo Park started his exploration from the Gambia River where he first spent a year "seasoning" to the tropical conditions as well as learning the Mandingo language. At age 24, alone except for two native companions, he set off in continental attire for the interior of Africa. His western clothes soon became rags. He was robbed on several occasions. His worst experience was his imprisonment and humiliation for 15 months by an Arab slave trader from whom he finally escaped. He observed and later described many of the cultural aspects of life in West Africa. Instead of heading for home, he struck off in search of the Niger River which he subsequently found and traveled as far east as Silla. With no further resources he then returned along the southern bank of the river to evade the Arabs and made it to Bamako. thus tracing the course of the Niger for more than 300 miles. He became seriously ill with 5 weeks of fever, but a friendly Arab slave trader put him up for 7 months while he recovered his health. He accompanied the slave trading caravan to a port in Gambia and sailed for England where he had given up for dead after an absence of almost 3 years. His memoirs entitled *Adventures in the Interior of Africa* went through a number of editions. He then settled down to a private practice, married the daughter of Mr. Anderson and sired four children before being asked to return to further explore the Niger. This time he was accompanied by an armed force of 44 men and his brother-in-law who was also surgeon. Within a few months, almost the entire force was dead from disease. On reaching the Niger, the survivors built a vessel out of two canoes which they named the Joliba (African for Niger). They sailed down the Niger past Timbuktu with numerous hostile encounters. Through a misunderstanding, they were attacked by a large force in a narrow portion of the river where Mungo drowned. His demise was described by Isaaco, who was the guide for a large part of the journey. Mungo Park has a splendid monument in Selkirk, Scotland and shares a museum with his friend Sir Walter Scott.

Learning objectives:

1. Describe the education of Mungo Parks as lifetime preparation
2. List his contributions to the knowledge of West Africa
3. Discuss his personal attributes that allowed him to persist in spite of adversity

## **“Beauty From Ashes”: Life And Medical Care In The Camps**

Joseph B. VanderVeer, Jr.

*Dr. VanderVeer is a retired general surgeon who served on the faculties of the Oregon Health Sciences University and the University of Arizona. He divides his time between Philadelphia and Phoenix, Arizona. He is editor of the AOS newsletter, The Oslerian.*

Within 2 months of the sneak attack on Pearl Harbor in 1941 a group of legislators from states on the U.S. west coast approached President Roosevelt with concerns about possible spies and sabotage by the Japanese-Americans living in their districts. His Executive Order 9066 of February 19, 1942 created camps to detain persons of Japanese lineage, both aliens and American Citizens. A total of over 110,000 persons were removed from their homes, many with less than a week’s notice, first to be interned for several months in temporary camps, then scattered among ten large inland camps established by the War Relocation Authority (WRA). These latter camps were surrounded by barbed-wire fences and guarded by soldiers in watchtowers. Most of those uprooted – which included a wide variety of professions – were respectable members of west coast communities.

Two aspects of the Japanese wartime internments are dealt with in this paper. First is the provision of medical, dental and obstetrical care for the residents of both the temporary and the WRA camps, which was provided by Japanese physicians and nurses, who served valiantly despite a paucity of equipment and supplies. The second aspect concerns “the art of *gaman*,” some of the creations produced by the internees during these years. (*Gaman* is a Japanese term meaning *to bear the seemingly unbearable with patience and dignity*.)

It is ironic that there were no recorded instances of sabotage by members of the camps. Moreover, a Japanese-American unit serving in Italy (the 100<sup>th</sup> Battalion/442<sup>nd</sup> Regimental Combat Team) became one of the most decorated groups of soldiers in World War II. The injustice inflicted on the persons sent to the camps was finally redressed in part by the Civil Liberties Act of 1988, signed by President Reagan, which distributed a total of \$1.8 billion to the surviving detainees or their heirs. The legislation stated that the actions of the government during the war were based on “race prejudice, war hysteria and a failure of political leadership.”

Learning objectives:

1. Describe conditions in the WWII WRA camps
2. Describe how medical care was given to the internees
3. Give examples of “The Art of Gaman” from the camps

## Michelangelo's Knee: Signs of Disease in Raphael's Figure of Heraclitus

Sara E. Walker

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One of the most often discussed figures in Italian Renaissance art is the Heraclitus in Raphael's *School of Athens* (1509-1510) in the Stanza della Segnatura, Vatican. One reason the figure has attracted such attention is the belief that he represents not only the ancient Greek philosopher, but also Michelangelo Buonarroti (1475-1564). The figure slouches on the stairs in the foreground to the left of center, his left cheek resting on his hand and his right knee bent at a sharp angle as he uses a marble block for a writing table. Raphael did paint the Heraclitus figure with features that, as far as we can see, correspond with Vasari's description of Michelangelo. Heraclitus has dark hair and a dark beard, and the broad forehead and widespread cheekbones fit Vasari's description of Michelangelo's rounded face ("La faccia era ritonda..."). This "Heraclitus" sits alone and his remoteness appears to mirror the solitary life of the quarrelsome Michelangelo who, Vasari tells us, loved solitude.

The figure deserves attention from a medical perspective because its right knee appears to be deformed. The joint is swollen, and three masses are lined up vertically along the medial aspect of the patella. The thigh muscles appear to be out of place and protrude over the superior margin of the knee, and bony elevations that should be visible are simply not present.

In a survey instigated by the author, a panel of ten individuals trained in anatomy looked at a close-up of Raphael's painting and eight concluded that the knee was diseased. It is possible that the abnormalities represent the artist's mistake, as Raphael was known to take liberties with the knee and either moved bones to new locations or eliminated outlines. On the other hand, if the knee was portrayed accurately, it was not normal. Three experts suggested the diagnosis was osteoarthritis, but Michelangelo was only 35 years old when the *School of Athens* was painted. Three other experts thought gouty arthritis could explain the joint effusion and periarticular, tophaceous lumps. If gout was present, the knee of the Michelangelo figure had a form in which tophi were prominent and pain was minimal.

Both of Michelangelo's contemporary biographers recorded that he passed stones in his urine, a manifestation of gout. Vasari notes he had pain on urination and passed gravel, followed by stones. Condivi adds that a physician attended the master diligently for this problem. If Heraclitus was a representation of Michelangelo, the urinary stones and deranged knee support the argument that Michelangelo had gout.

The fact that Raphael would paint a Michelangelo figure suggests he acknowledged the influence of the great master on Raphael's artistry. The portrayal of knee arthritis in the Heraclitus/Michelangelo figure suggests that Raphael and Michelangelo, who were thought to be bitter rivals, actually had some friendly encounters that gave Raphael the opportunity to observe, remember, and later paint Michelangelo's knee.

Learning objectives:

1. Attendees should know the major physical signs of a normal knee
2. Attendees should understand the importance of careful observation in diagnosing arthritis
3. Attendees should recognize physical findings that suggest the presence of gouty arthritis of the knee

## Medicine in the Life and Work of Sir Walter Scott (1771-1832)

John W. K. Ward

*John Ward is a retired family doctor with a lifelong interest in medical history. A past president of both the Osler Club of London and the British Society for the History of Medicine, he is a fellow of the Royal College of Physicians of Edinburgh and of the Royal College of General Practitioners. He has lectured widely in Britain and North America on medical history, family medicine and Johnsonian topics.*

Walter Scott had a vast literary output. He exploited his intimate knowledge of Scottish history and legend, medieval French romance and popular ballads, and with "*Waverley*" began the long series of works which established him as the master of the historical novel and an influence on his successors Balzac, Tolstoy, Stevenson and Buchan.

Less well known however are his connections in medicine. His maternal grandfather was John Rutherford who, having attended Herman Boerhaave's lectures in Leiden, introduced clinical lectures and bedside teaching in Edinburgh. John's son Daniel, Walter's uncle, was also a physician and in addition to being credited with the discovery of nitrogen, lectured to the surgeon and explorer Mungo Park.

From an early age Scott's life was affected by illness with its resultant medical input. His personal description of the onset of polio is included in *Bibliotheca Osleriana*. His "*Lay of the Last Minstrel*" was largely developed when he was bed-bound having been kicked by a horse. He suffered severely from biliary colic for which he took laudanum and John Buchan suggested that "*The Bride of Lammermoor*" was a product of his opium dreams. We shall examine Scott's health, his medical connections and his portrayal of medicine and doctors in his work and correspondence.

The workload of Gideon Gray in "*The Surgeon's Daughter*" will be highlighted with Oslerian observations.

Learning objectives:

1. Discuss how illness may have affected Scott's literary output
2. List some of the physicians in Edinburgh's *Age of Reason*
3. Contrast other major writers with medical associations



## Osler's Martha: The Role of the Doctor's Wife in Historical and Contemporary Medical Practice

Margaret P. Wardlaw

*Margaret P. Wardlaw is an MD/PhD candidate currently doing her dissertation research on spirituality and religion in hospital childbirth at the Institute for Medical Humanities at the University of Texas Medical Branch at Galveston. Her research interests include childbirth, disability, and the priestly role of the physician. Margaret is honored to have received a John P. McGovern Student Scholarship in Oslerian Medicine.*

In his biography, *William Osler: A Life in Medicine*, Michael Bliss tells us: "Osler once wrote to a medical graduate on the subject of marriage: 'A doctor needs a woman who will look after his house and rear his children, a Martha whose first care will be for the home.'" Osler's advice falls on modern ears as antiquated at best and at worst offensive, but at the time it was good advice. Our traditional narrative of the good doctor, whose ultimate responsibility is always to his patients, is a classic heroic masculine ideal. In its narration, this ideal often obscures an important corollary: the ideal doctor typically existed in partnership with a conversely idealized female, an Osler's Martha.

As a professor at Johns Hopkins, Osler taught several of the first women medical students in the United States, including one of his more infamous drop-outs, the bohemian feminist Gertrude Stein. But when he penned a letter of advice to his young doctor friend, he never could have anticipated a graduating class of medical students with over fifty-percent women, or a world in which the majority of men had significant domestic responsibilities. Today, family structure has changed so significantly that it is the rare male student whose wife is a true Martha. Needless to say, the prospects for procuring a long standing attachment to an Osler's Martha are significantly worse for the majority of the other half of the class. The historic attachment of a physician to a wife who singularly managed the domestic sphere is germane to a discussion of physician duties. In the near future, the majority of physicians will be either men who do not have a wife to manage all domestic responsibilities, or women. This means that physician duties to patients will increasingly have to be balanced with domestic duties and duties to children.

Learning objectives:

1. Analyze the critical role of Osler's Martha, the doctor's wife, in medical history
2. Assess Osler's views on the importance of the domestic life to a physician
3. Apply Osler's advice on marriage to the changing demographics in contemporary medical practice

## **William Forbes – Villainous Grave Robber or Philadelphia Anatomical Hero**

James R. Wright, Jr.

*Dr. Jim Wright received his MD, PhD (Pathology), and MA (Medical History) degrees from The Ohio State University and was the recipient of the AAHM William Osler Medal in 1984. After completing a residency in anatomical pathology at Washington University, he moved to Dalhousie University in Halifax, NS where he established an active research laboratory doing experimental pancreatic islet transplantation, and was Professor of Pathology, Surgery, and Biomedical Engineering. In 2005, he moved to the University of Calgary as Head of the Department of Pathology & Laboratory Medicine.*

In the 1883, just prior to Osler's move to the University of Pennsylvania, a medical scandal rocked the city of Philadelphia. Shortages of legal cadavers, compounded by the presence of 8 medical or surgical schools, had resulted in a booming local underground economy based upon resurrecting bodies of indigent Blacks for anatomical dissection. A local newspaper reporter, having hired a Pinkerton detective for protection and "muscle," conducted secret investigations and actually interrupted a grave-robbing act at Lebanon Cemetery and detained the culprits at gunpoint until the police arrived. At the time of the arrests, one of the perpetrators possessed a key to the Anatomy Lab at Jefferson Medical College and this was immediately linked to the surgeon Demonstrator of Anatomy, William Forbes, who was soon arrested and charged. Newspaper coverage of these events, the pre-trial hearings, and the trial, precipitated race riots and violence in Philadelphia. The local medical aristocracy and high society backed Forbes, while indigents and Blacks wanted him convicted and severely punished. Bad publicity for Jefferson Medical College forced the Dean to consider closing the school. Medical students rallied around Forbes, writing racist poetry and unanimously passing a resolution supporting Forbes. Forbes was eventually acquitted, but the rest of his team was convicted. Based upon a plan hatched by state senator Dr. William James McKnight, a rural surgeon who early in his career had himself been convicted and sentenced for grave-robbing, the Philadelphia Anatomical Society drafted a plan for a new Anatomy Act which would ensure adequate numbers of legal cadavers and which was craftily introduced by McKnight and quickly passed by the State legislature. Prominent Philadelphia surgeons, undoubtedly feeling that Forbes had been the unfortunate sacrificial lamb and that he had done nothing they themselves had not done, canvassed the medical community for donations for a legal fund which covered all of Forbes' legal expenses. Forbes' professional stature rose and he was soon promoted to Professor. As Forbes' legend grew, he was credited with almost single-handedly amending the Pennsylvania Anatomy Act. Forbes embraced his new-found stature and later published a book about the history of the Anatomy Act, which barely mentions McKnight's role. Forbes was honored for his contributions to anatomy at his retirement in a unique ceremony sponsored by both Jefferson Medical College and University of Pennsylvania, institutions which were staunch competitors and rarely did anything jointly, where he was presented a silver loving cup. Famous local artist Thomas Eakins, the former Professor/Director of the Pennsylvania Academy of Fine Arts (he resigned because of an anatomy scandal) was contracted to paint a portrait of Forbes holding the Anatomy Act; the portrait was recently sold by Thomas Jefferson University to a wealthy private collector and its location is officially unknown. Recent public memories of this scandal probably tempered Osler's enthusiasm for performing autopsies, without proper autopsy consent, on indigent patients at Blockley Hospital, but he still had trouble with authorities.

Acknowledgement: The Thomas Jefferson University Archives which holds: (1) the collected papers of William Forbes, (2) newspaper coverage of University events, (3) official University records, and (4) court transcripts of the pre-trial hearings and the trial.

Learning objectives:

1. Explain the evolution of anatomy law in Pennsylvania
2. Compare and contrast the roles of Drs. William Forbes and William McKnight in the 1883 modification to the Anatomy Act
3. Discuss the grave-robbing scandal that immediately preceded the Anatomy Act of 1883

## **Paradigm Shifts and Hubris in Medicine: The Death of Garfield – Where Was Osler?**

James B. Young & Leonard Calabrese

*Drs. Young and Calabrese are on the Staff of the Cleveland Clinic, members of the American Osler Society, and have been integrating the history of our profession into the humanities curriculum of our College of Medicine.*

The 20<sup>th</sup> president of the United States, James A. Garfield, died September 19, 1881, about 90 days after being shot by a deranged Charles Guiteau. Who was Garfield? Who remembers this martyr and ghost of American presidents? Was he a victim of an assassin's bullet or was his death caused by the hubris of his paternalistic physicians (as Guiteau later claimed). Perhaps the troika of the fop Doctor Bliss ("Doctor" was his first name), New York's Dr. Frank Hamilton (a prominent but aging Civil War surgeon), and David Hayes Agnew (of Philadelphia and Eakins portrait fame) did him in. He was only 6 months into his presidency. Some believe Garfield was an undistinguished president, yet he set the stage for a changed political patronage system, declared sovereignty over the Panama isthmus ("our" canal's home), and recognized the Hawaiian Islands as the westernmost outpost of America. His library became the first "Presidential" collection. Garfield was the last American president born in a wilderness log cabin (1832, Orange, Ohio). He had an overrated Civil War experience but became a Union Army general and was elected United States Congressman in 1862, becoming chairman of the Committee on Appropriations. His presidential election was a fluke as he was a compromise candidate placed on the Republican ticket after 36 tumultuous ballots failed to favor former President Ulysses S. Grant, Senator James G. Blaine (a Garfield rival who was ultimately named Secretary of State), and John Sherman (William Tecumseh's brother). Dark horse Garfield went on to win the 1880 general election with a plurality of less than 2,000 votes, the narrowest of all presidential elections. It was a bitter battle with threats, and Garfield later commented, "Assassination can no more be guarded against than death by lightning, and it is best not to worry about either." Then, while walking through a Washington D.C. train station, the 49 year old Garfield was shot in the back. That was when the malpractice began. Garfield's wound was poked and probed with nasty fingers and filthy instruments. The "germ theory" of infectious disease was evolving but established by 1881. Lister attended the 1876 United States Centennial Exhibition in Philadelphia (where a model of the head and shoulders of the Statue of Liberty was displayed), Alexander Graham Bell tried to interest the world in his new invention – the telephone, and the Eakins Gross Clinic painting was viewed). Professor Samuel Gross, lionized by the Eakins portrait, president of the Medical Congress of the Exhibition and Philadelphia doyen of surgery, hosted Lister who promoted his theory and practice of antisepsis. But Gross arrogantly dismissed the concept and "folderol" as useless and, worse, dangerous (as did Hamilton). This hubristic soap box pontification inhibited the paradigm shift regarding wound care and that is what ultimately killed Garfield (most agree that the injury was not a uniformly fatal one). So where was Osler in July, 1881? Did he weigh in on Garfield's condition? What were his thoughts about "antisepsis"? When was the paradigm shift regarding antiseptic wound management completed? We shall see.

Learning objectives:

1. Determine what/who killed Garfield
2. Explore "paradigm shifts" in medicine
3. Determine what Osler thought of the Garfield assassination

## **John P. McGovern Lectureship Awards**

1986	Albert Rupert Jonsen
1987	Edward Janavel Huth
1988	Joanne Trautmann Banks
1989	John Nicholas Walton
1990	E. A. Vastyan
1991	Daniel Michael Fox
1992	William C. Beck
1993	Anne Hudson Jones
1994	David Hamilton
1995	Sherwin B. Nuland
1996	David J. Rothman
1997	Roger James Bulger
1998	Paul Potter
1999	John David Stobo
2000	Gert Henry Brieger
2001	Kenneth M. Ludmerer
2002	James K. Cassedy
2003	Sir Richard Doll
2004	William F. Bynum
2005	Karen Hein
2006	Joseph Jack Fins
2007	Abraham Verghese
2008	Charles E. Rosenberg
2009	Patrick A. McKee
2010	Nuala P. Kenny
2011	Rosemary A. Stevens
2012	C. David Naylor

## **Lifetime Achievement Awards**

2005	Earl F. Nation
2006	Charles G. Roland
2007	Lawrence D. Longo
2008	Richard L. Golden
2009	W. Bruce Fye
2010	Charles S. Bryan
2011	Michael Bliss
2012	Jeremiah A. Barondess

## Presidents of the American Osler Society

\* Deceased

William B. Bean*	1970-1971	Paul D. Kligfield	1991-1992
George T. Harrell*	1971-1972	Alvin E. Rodin*	1992-1993
Thomas M. Durant*	1972-1973	Robert E. Rakel	1993-1994
John P. McGovern*	1973-1974	Kenneth M. Ludmerer	1994-1995
Edward C. Rosenow, Jr.*	1974-1975	Charles F. Wooley*	1995-1996
A. McGehee Harvey*	1975-1976	Billy F. Andrews	1996-1997
Raymond D. Pruitt*	1976-1977	Eugene H. Conner	1997-1998
Martin M. Cummings	1977-1978	Richard J. Kahn	1998-1999
Earl F. Nation*	1978-1979	Dee J. Canale	1999-2000
Irving A. Beck*	1979-1980	Mark E. Silverman*	2000-2001
Peter D. Olch*	1980-1981	John C. Carson	2001-2002
William C. Gibson*	1981-1982	Lawrence D. Longo	2002-2003
R. Palmer Howard*	1982-1983	Marvin J. Stone	2003-2004
Jeremiah A. Barondess	1983-1984	Chester R. Burns*	2004-2005
K. Garth Huston*	1984-1985	Claus A. Pierach	2005-2006
William B. Spaulding*	1985-1986	T. Jock Murray	2006-2007
Charles G. Roland*	1986-1987	Francis A. Neelon	2007-2008
Robert P. Hudson	1987-1988	Joseph W. Lella	2008-2009
W. Bruce Fye	1988-1989	John Noble	2009-2010
Richard L. Golden	1989-1990	Charles S. Bryan	2010-2011
Jack D. Key	1990-1991	Michael Bliss	2011-2012

## Secretaries and Treasurers of the American Osler Society

\*Deceased

<b>Year(s)</b>	<b>Treasurer-Historian</b>	<b>Secretary</b>
1971	Alfred R. Henderson	John P. McGovern*
1972	Alfred R. Henderson	Edward C. Rosenow, Jr.*
1973	Alfred R. Henderson	A. McGehee Harvey*
1974	Alfred R. Henderson	Raymond D. Pruitt*
1975	Alfred R. Henderson	Martin M. Cummings
	<b>Secretary-Treasurer</b>	
1976 - 1985	Charles C. Roland*	
1986 - 1989	Jack D. Key	
1990 - 2000	Lawrence D. Longo	
2001 - 2009	Charles S. Bryan	
	<b>Treasurer</b>	<b>Secretary</b>
2010 - 2012	R. Dennis Bastron	Paul S. Mueller

# Living Members of the American Osler Society

## Honorary Members

THOMAS G. BENEDEK  
*Pittsburgh, Pennsylvania*

SHIGEAKI HINOHARA  
*Tokyo, Japan*

JOHN D. STOBO  
*San Rafael, California*

GERT H. BRIEGER  
*Baltimore, Maryland*

MARIAN FRANCIS KELEN  
*Ottawa, Ontario, Canada*  
*Northumberland, England*

JOHN N. WALTON  
*Detchant, Belford*

## Charter Members

\* Emeritus

MARTIN M. CUMMINGS\*  
*Sarasota, Florida*

FRED B. ROGERS\*  
*Trenton, New Jersey*

ILZA VEITH\*  
*Tiburon, California*

ALFRED R. HENDERSON\*  
*Bethesda, Maryland*

## Elected Members

\* Emeritus

JACK B. ALPERIN (2004)  
*Galveston, Texas*

DARRYL BINDSCHADLER (2007)  
*Cheyenne, Wyoming*

JOHN C. CARSON (1987)  
*La Jolla, California*

CHARLES T. AMBROSE (1998)  
*Lexington, Kentucky*

JOHN S.G. BLAIR\* (2003)  
*Perth, Scotland*

MICHAEL W. CATER (2001)  
*Santa Ana, California*

BILLY F. ANDREWS (1972)  
*Floyds Knobs, Indiana*

RICHARD K. BLAISDELL\* (1973)  
*Honolulu, Hawaii*

DONALD CATINO\* (1984)  
*New London, New Hampshire*

STANLEY M. ARONSON\* (1987)  
*Providence, Rhode Island*

MICHAEL BLISS (1996)  
*Toronto, Ontario, Canada*

WALTER R. CHITWOOD, JR. (1989)  
*Greenville, North Carolina*

JAMES O. BALLARD (2006)  
*Hummelstown, Pennsylvania*

CHRISTOPHER J. BOES (2010)  
*Rochester, Minnesota*

CLIFTON R. CLEVELAND\* (1999)  
*Signal Mountain, Tennessee*

JAMES E. BAILEY (2011)  
*Memphis, Tennessee*

W. BRYANT BOUTWELL (2005)  
*Houston, Texas*

EUGENE H. CONNER\* (1980)  
*Thomasville, Georgia*

JEREMIAH A. BARONDESS\* (1975)  
*New York, New York*

CHARLES S. BRYAN (1994)  
*Columbia, South Carolina*

BARRY COOPER (2002)  
*Dallas, Texas*

R. DENNIS BASTRON (2003)  
*Tucson, Arizona*

JOHN D. BULLOCK (2008)  
*Dayton, Ohio*

DAVID K. C. COOPER (2006)  
*Pittsburgh, Pennsylvania*

GEORGE S. BAUSE (2010)  
*Cleveland, Ohio*

LEONARD H. CALABRESE (2008)  
*Cleveland Heights, Ohio*

CHRISTOPHER CRENNER (2005)  
*Kansas City, Missouri*

STEVEN L. BERK (1988)  
*Lubbock, Texas*

IAN A. CAMERON (2011)  
*Sherbrooke, Nova Scotia, Canada*

JOHN H. CULE\* (1973)  
*Ceredigion, Llandysul, Wales*

PAUL E. BERMAN (2002)  
*Amherst, Massachusetts*

DEE J. CANALE (1985)  
*Memphis, Tennessee*

BURKE A. CUNHA (2002)  
*Garden City, New York*

KERSTIN BETTERMANN (2010)  
*Hershey, Pennsylvania*

RICHARD M. CAPLAN\* (1988)  
*Iowa City, Iowa*

MARTIN L. DALTON\* (2000)  
*Macon, Georgia*

# Living Members of the American Osler Society (continued)

## Elected Members

\* Emeritus

PETER E. DANS\* (2002)  
*Cockeysville, Maryland*

SAKTI DAS (1998)  
*Lafayette, California*

ANAND P. DATE (2002)  
*Muscat, Oman*

ALLAN J. DENNIS, JR.\* (2005)  
*Augusta, Georgia*

NICHOLAS DEWEY\* (1981)  
*Santa Barbara, California*

CHRISTOPHER F. DIBBLE (2011)  
*Carrboro, North Carolina*

LAUREL E. DREVLLOW (2006)  
*Minneapolis, Minnesota*

JACALYN M. DUFFIN (1998)  
*Kingston, Ontario, Canada*

PAUL G. DYMENT\* (1982)  
*Topsham, Maine*

GEORGE C. EBERS (1985)  
*Oxford, England*

RICHARD EIMAS\* (1986)  
*Reston, Virginia*

ARNOLD EINHORN\* (2002)  
*Chevy Chase, Maryland*

MICHAEL EMMETT (2003)  
*Dallas, Texas*

LYNN C. EPSTEIN (1999)  
*Bristol, Rhode Island*

JONATHON ERLIN (2002)  
*Pittsburgh, Pennsylvania*

WILLIAM N. EVANS (2010)  
*Las Vegas, Nevada*

MEGHAN A. FEELY (2011)  
*Rochester, Minnesota*

WILLIAM H. FEINDEL\* (1977)  
*Montreal, Quebec, Canada*

ANDREW Z. FENVES (2005)  
*Dallas, Texas*

GARY B. FERNGREN (1996)  
*Corvallis, Oregon*

JOSEPH J. FINS (2009)  
*New York, New York*

REGINALD H. FITZ\* (1981)  
*Unknown*

EUGENE S. FLAMM\* (1998)  
*New York, New York*

THOMAS W. FRANK (2010)  
*El Paso, Texas*

HERBERT L. FRED\* (1984)  
*Houston, Texas*

GORDON FRIERSON (2009)  
*Palo Alto, California*

ABRAHAM FUKS (1999)  
*Montreal, Quebec, Canada*

CONRAD C. FULKERSON (2001)  
*Durham, North Carolina*

J. MICHAEL FULLER (2009)  
*Greenville, South Carolina*

W. BRUCE FYE (1975)  
*Rochester, Minnesota*

CHRISTOPHER G. GOETZ (2000)  
*Chicago, Illinois*

JOHN T. GOLDEN (1999)  
*Grosse Pointe Woods, Michigan*

RICHARD L. GOLDEN\* (1980)  
*Centerport, New York*

JAMES T. GOODRICH (1982)  
*Grandview, New York*

RALPH C. GORDON (1998)  
*Unknown*

JOHN L. GRANER (1997)  
*Rochester, Minnesota*

STEPHEN B. GREENBERG (1997)  
*Houston, Texas*

DAVID R. HABURCHAK (2002)  
*Augusta, Georgia*

JAMES F. HAMMARSTEN\* (1981)  
*Melrose, Minnesota*

WILLIAM HAUBRICH\* (1994)  
*La Jolla, California*

H. ALEXANDER HEGGTVEIT\* (1982)  
*Hamilton, Ontario*

PERRY HOOKMAN (1999)  
*Potomac, Maryland*

JOEL D. HOWELL (1987)  
*Ann Arbor, Michigan*

ROBERT P. HUDSON\* (1970)  
*Olathe, Kansas*

K. GARTH HUSTON, JR. (1992)  
*Leucadia, California*

EDWARD J. HUTH\* (1988)  
*Bryn Mawr, Pennsylvania*

BRUCE J. INNES\* (2001)  
*Macon, Georgia*

WILLIAM H. JARRETT, II (1998)  
*Atlanta, Georgia*

H. MICHAEL JONES (2006)  
*Chapel Hill, Carolina*

ROBERT J. T. JOY\* (1981)  
*Chevy Chase, Maryland*

RICHARD J. KAHN (1981)  
*Tenants Harbor, Maine*

ANAND B. KARNAD (1998)  
*San Antonio, Texas*

JOHN A. KASTOR\* (2004)  
*Baltimore, Maryland*

JENNIFER KEAM (2002)  
*Unknown*

CARLA C. KEIRNS (2011)  
*Port Jefferson Station, NY*

ELTON R. KERR (1989)  
*Pasco, Washington*

JACK D. KEY\* (1979)  
*Sandia Park, New Mexico*

PAUL D. KLIGFIELD (1980)  
*New York, New York*

ROBERT A. KYLE (2007)  
*Rochester, Minnesota*

S. ROBERT LATHAN (2002)  
*Atlanta, Georgia*

JOSEPH W. LELLA (1998)  
*London, Ontario, Canada*

ROBERT I. LEVY\* (2007)  
*Baltimore, Maryland*

LAWRENCE D. LONGO (1976)  
*Redlands, California*

# Living Members of the American Osler Society (continued)

## Elected Members

\* Emeritus

KENNETH M. LUDMERER (1983)  
*St. Louis, Missouri*

CARL E. LUNDSTROM (2011)  
*Rochester, Minnesota*

ROBERT L. MARTENSEN (1997)  
*Bethesda, Maryland*

ERIC L. MATTESON (2011)  
*Rochester, Minnesota*

CHRYSSA N. K. McALISTER (2009)  
*Toronto, Ontario, Canada*

VIVIAN C. McALISTER (2010)  
*London, Ontario, Canada*

PAUL R. McHUGH (1990)  
*Baltimore, Maryland*

NEIL McINTYRE (1995)  
*Woodford Green, Essex, England*

LAURA McLAFFERTY (2011)  
*Balden, Pennsylvania*

WILLIAM O. McMILLAN, JR. (1995)  
*Wilmington, North Carolina*

ROBERT G. MENNEL (1999)  
*Dallas, Texas*

M. ALAN MENTER\* (2004)  
*Dallas, Texas*

PAMELA J. MILLER (2003)  
*Westmont, Quebec, Canada*

J. MARIO MOLINA (2008)  
*Long Beach, California*

MICHAEL E. MORAN (2004)  
*Tucson, Arizona*

DANIEL D. MORGAN (2000)  
*Fremont, California*

ROBERT H. MOSER\* (1974)  
*Green Valley, Arizona*

SANDRA W. MOSS (2002)  
*Metuchen, New Jersey*

PAUL S. MUELLER (2003)  
*Rochester, Minnesota*

SEAN B. MURPHY\* (2002)  
*Westmount, Quebec, Canada*

T. JOCK MURRAY\* (1992)  
*Halifax, Nova Scotia, Canada*

ANDREW T. NADELL (1986)  
*Burlingame, California*

FRANCIS A. NEELON (1992)  
*Durham, North Carolina*

ROBERT R. NESBIT, JR. (2003)  
*Augusta, Georgia*

JOHN NOBLE (1993)  
*Boston, Massachusetts*

ROBERT K. OLDHAM (1982)  
*Summerland Key, Florida*

MICHAEL F. O'ROURKE (1996)  
*Sydney, Australia*

BRUCE R. PARKER\* (1995)  
*Houston, Texas*

CLYDE PARTIN, JR. (1999)  
*Atlanta, Georgia*

STEVEN J. PEITZMAN (2002)  
*Philadelphia, Pennsylvania*

EDMUND D. PELLEGRINO\* (1975)  
*Washington, District of Columbia*

CLAUS A. PIERACH (1991)  
*Minneapolis, Minnesota*

CYNTHIA D. PITCOCK (1992)  
*Memphis, Tennessee*

SCOTT H. PODOLSKY (2010)  
*Boston, Massachusetts*

BETH PREMINGER (2002)  
*New York, New York*

MABEL L. PURKERSON\* (2003)  
*St. Louis, Missouri*

TONSE N. K. RAGU (1999)  
*Gaithersburg, Maryland*

ROBERT E. RAKEL (1983)  
*Houston, Texas*

MICHAEL A. E. RAMSAY (2006)  
*Dallas, Texas*

P. PRESTON REYNOLDS (1998)  
*Charlottesville, Virginia*

C. JOAN RICHARDSON (2008)  
*Galveston, Texas*

CHARLES S. ROBERTS (2004)  
*Winchester, Virginia*

WILLIAM C. ROBERTS\* (2000)  
*Dallas, Texas*

LOREN A. ROLAK (1995)  
*Marshfield, Wisconsin*

GEORGE SARKA (2009)  
*Laguna Hills, California*

OM PRAKASH SHARMA\* (1985)  
*Alhambra, California*

CHRISTOPHER B. SHIELDS\* (1989)  
*Louisville, Kentucky*

BARRY D. SILVERMAN (1997)  
*Atlanta, Georgia*

RUSSELL L. SILVERSTEIN (2005)  
*Dallas, Texas*

WILLIAM A. SMITH, JR. (2000)  
*Fulton, Kentucky*

WILLIAM A. SODEMAN, JR. (1998)  
*Toledo, Ohio*

R. TED STEINBOCK (1994)  
*Unknown*

MARVIN J. STONE (1990)  
*Dallas, Texas*

ROB H. STONE (2008)  
*West Hills, California*

KENNETH G. SWAN (2011)  
*South Orange, New Jersey*

HERBERT M. SWICK (2000)  
*Missoula, Montana*

JAMES E. TOOLE\* (1976)  
*Winston-Salem, North Carolina*

JOHN T. TRUMAN\* (2000)  
*New York, New York*

ROBERT P. TURK (2008)  
*Dayton, Ohio*

JOSEPH B. VANDER VEER, JR. (2003)  
*Devon, Pennsylvania*

HECTOR O. VENTURA (1999)  
*Metairie, Louisiana*

FERNANDO G. VESCIA\* (1986)  
*Palo Alto, California*

JOHN W. K. WARD (2003)  
*Abingdon, Oxfordshire, England*



# Living Members of the American Osler Society (continued)

## Elected Members

\* Emeritus

MARGARET P. WARDLAW (2011)  
*Austin, Texas*

JOHN B. WEST\* (1995)  
*La Jolla, California*

BENJAMIN CODY WRIGHT (2000)  
*Unknown*

ALLEN B. WEISSE\* (1997)  
*Springfield, New Jersey*

THORNE D. WINTER (2010)  
*Atlanta, Georgia*

JAMES R. WRIGHT  
*Calgary, Alberta*

MARC E. WEKSLER\* (2004)  
*Tenafly, New Jersey*

W. CURTIS WORTHINGTON (1999)  
*Charleston, South Carolina*

JAMES B. YOUNG (1992)  
*Cleveland, Ohio*

DENNIS K. WENTZ\* (2003)  
*Bozeman, Montana*

## Deceased Members of the American Osler Society

### Honorary Members

WILBURT C. DAVISON  
*(1892-1972)*

TRUMAN G. BLOCKER, JR.  
*(1908-1984)*

H. ROCKE ROBERTSON  
*(1912-1998)*

WILDER G. PENFIELD  
*(1891-1976)*

LLOYD G. STEVENSON  
*(1918-1988)*

ALASTAIR H. T. ROBB-SMITH  
*(1908-2000)*

EMILE F. HOLMAN  
*(1890-1977)*

HAROLD N. SEGALL  
*(1897-1990)*

GEORGE W. CORNER  
*(1899-1981)*

EDWARD H. BENSLEY  
*(1906-1995)*

### Charter Members

PAUL DUDLEY WHITE  
*(1886-1973)*

RAYMOND D. PRUITT  
*(1912-1993)*

WILLIAM K. BEATTY  
*(1926-2002)*

THOMAS M. DURANT  
*(1905-1977)*

THOMAS F. KEYS  
*(1908-1995)*

PALMER H. FUTCHER  
*(1910-2004)*

WALTER C. ALVAREZ  
*(1884-1978)*

H. GRANT TAYLOR  
*(1903-1995)*

G. S. T. CAVANAGH  
*(1923-2005)*

CHAUNCEY D. LEAKE  
*(1896-1978)*

CECILE DESBARATS  
*(1907-1998)*

JOHN P. McGOVERN  
*(1921-2007)*

EARLE P. SCARLETT  
*(1896-1982)*

A. McGEHEE HARVEY  
*(1911-1998)*

EARL F. NATION (1910-2008)  
*(1910-2008)*

SAMUEL X. RADBILL  
*(1901-1987)*

WILLARD E. GOODWIN  
*(1915-1998)*

VICTOR A. McKUSICK  
*(1921-2008)*

HOWARD L. HOLLEY  
*(1914-1988)*

GEORGE T. HARRELL  
*(1908-1999)*

CHARLES G. ROLAND  
*(1933-2009)*

WILLIAM B. BEAN  
*(1909-1989)*

EDWARD C. ROSENOW, JR.  
*(1909-2002)*

WILLIAM C. GIBSON  
*(1914-2009)*

R. PALMER HOWARD  
*(1912-1990)*

# Deceased Members of the American Osler Society

## Elected Members

ARTHUR D. KELLY  
(1901-1976)  
MARSHALL N. FULTON  
(1899-1977)  
I. N. DUBIN  
(1913-1981)  
GEORGE E. GIFFORD, JR.  
(1930-1981)  
LAWRENCE C. MCHENRY, JR.  
(1929-1985)  
GEORGE E. BURCH  
(1910-1986)  
K. GARTH HUSTON  
(1926-1987)  
GORDON W. JONES  
(1915-1987)  
CHARLES S. JUDD, JR.  
(1920-1987)  
ROBERT J. MOES  
(1905-1988)  
S. GORDON ROSS  
(1899-1990)  
MAURICE A. SCHNITKER  
(1905-1990)  
JAMES V. WARREN  
(1959-1990)  
NICHOLAS E. DAVIES  
(1926-1991)  
PETER D. OLCH  
(1930-1991)  
JOHN Z. BOWERS  
(1913-1993)  
WILLIAM B. SPAULDING  
(1922-1993)  
LEWIS THOMAS  
(1913-1993)  
RODERICK K. CALVERLEY  
(1938-1995)  
DYKES CORDELL  
(1944-1996)  
LUTHER C. BECK  
(1909-1996)  
HASKELL F. NORMAN  
(1915-1996)  
JOHN W. SCOTT  
(1915-1997)  
IRVING A. BECK  
(1911-1997)  
THOMAS A. WARTHIN  
(1909-1997)  
EDWARD W. HOOK, JR.  
(1924-1998)

JAMES A. KNIGHT  
(1918-1998)  
NORMAN SCHAFFTEL  
(1914-1998)  
DANIEL B. STONE  
(1925-1998)  
ALVIN E. RODIN  
(1926-1999)  
GARFIELD J. TOURNEY  
(1927-1999)  
R. CARMICHAEL TILGHMAN  
(1904-1999)  
STANLEY W. JACKSON  
(1920-2000)  
SAUL JARCHO  
(1906-2000)  
LLOYD W. KITCHENS, JR.  
(1946-2001)  
ROBERT E. BEAMISH  
(1916-2001)  
ARNOLD G. ROGERS  
(1925-2001)  
FREDERICK W. BARNES  
(1909-2001)  
WALTER D. HANKINS  
(1910-2001)  
ROY SELBY  
(1930-2002)  
E. CARWILE LEROY  
(1933-2002)  
ROBERT M. KARK  
(1911-2002)  
CARLETON B. CHAPMAN  
(1915-2002)  
DAVID M. MUMFORD  
(1927-2003)  
ALEX SAKULA  
(1917-2003)  
FREDERICK B. WAGNER, JR.  
(1916-2004)  
CLARK T. SAWIN  
(1934-2004)  
A. BENEDICT SCHNEIDER  
(1914-2004)  
STEWART G. WOLFE  
(1914 - 2005)  
G. R. PATERSON  
(1919-2005)  
W. WATSON BUCHANAN  
(1930-2006)  
CHESTER R. BURNS  
(1937-2006)

ROBERT AUSTRIAN  
(1916-2007)  
CHARLES F. WOOLEY  
(1930-2008)  
M. GEORGE JACOBY  
(1920-2008)  
MARK E. SILVERMAN  
(1939-2008)  
ROBERT U. MASSEY  
(1922-2008)  
ARTHUR GRYFE  
(1935-2009)  
LEON Z. SAUNDERS  
(1920-2009)  
HOWARD B. BURCHELL  
(1908-2009)  
HARRIS D. RILEY, JR.  
(1924-2010)  
D. GERAINT JAMES  
(1922-2010)  
ROBERT C. KIMBROUGH, III  
(1941-2010)  
C. PETER W. WARREN  
(1940-2011)  
J. WILLIS HURST  
(1920-2011)  
PHILIP W. LEON  
(1944-2012)





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