Medical History through Innovation: Selected Pioneers
1498-1953
John Martin Rare Book Room Open House, March 31, 2016

1. HIPPOCRATES (ca. 460-368 BCE). *Aphorismi, cum Galeni commentariis, Nicolao Leoniceno interprete. Praedictiones, cum Galeni commentariis, Laurentio Laurentiano interprete*, 1527. The most celebrated physician of his time and, indeed, of all time, he is appropriately called "the father of medicine".

2. PEDANII DIOSCORIDIS ANAZARBEI (ca.40-90). *De medicinali materia libri sex*, 1549. Dioscorides' materia medica was the dominant and authoritative source of therapeutic herbal medicine by the Renaissance.

3. GALEN (ca. 130-200). *Operum omnium sectio prima*, 1541. One of the noted physicians of antiquity, second only to Hippocrates. His writings were accepted as authoritative for centuries after his death.

4. AVICENNA (980-1037). *Canon Medicinae*, 1498. The Canon was his greatest medical compilation and "stands for the epitome of all precedent development, the final codification of all Graeco-Arabic medicine".

5. JOHANNES DRYANDER (1500-1560). *Anatomiae*, 1537. Johannes Dryander was "among the first anatomists who made illustrations after their own dissections".

6. LEONHART FUCHS (1501-1566). *De Historia Stirpium Commentarii Insignes*, 1542. The book is evidence of Fuchs' great ability to organize knowledge and covers the theory of medicine as it was then known.

7. ANDREAS VESALIUS (1514-1564). *De humani corporis fabrica libri septem*, 1543. *Fabrica* is considered the most famous anatomical work ever published and the milestone in medical history which definitely showed a break from old traditions.

8. GEORG BARTISCH (1535-1607). *Ophthalmodouleia; das ist, Augendienst*, 1583. This work is regarded as the first systematic work on eye diseases and ophthalmic surgery.

9. WILLIAM HARVEY (1578-1657). *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus*, 1628. Many authorities consider this book to be the most important book in the history of medicine. With this book the whole scientific outlook on the human body was transformed.

10. GASPARE ASELLI. (1581-1626). *De Lactibus Sive Lacteis Venis*, 1627. Aselli discovered the mesenteric lymphatic vessels, which he called the lacteals.

11. MARCELLO MALPIGHI (1628-1694). *De Pulmonibus Observationes Anatomicae*. (In Thomas Bartholin's *De Pulmonum Substantia & Motu Diatribe*, 1663). Malpighi discovered pulmonary circulation and showed that the lungs were vesicular in nature and described how the branches of the trachea terminate in the alveoli.

12. RICHARD LOWER (1631-1691). *The Method Observed in Transfusing the Bloud out of one Animal into Another*. (Detached from Philosophical transactions. Vol. I (1666), no. 20, pp. 353-358.) Lower was successful in directly transfusing the blood from an artery of one dog into the vein of another.

13. ANTHONY VON LEEUWENHOEK (1632-1723). *Anatomia seu, Interiora rerum*, 1687. Leeuwenhoek was the first to use the microscope systematically and brought the construction of the simple microscope to a high degree of perfection.

14. PIERRE FAUCHARD (1678-1761). *Le Chirurgien Dentiste*, 1746. This work provided major development in the dental profession by incorporating the entire doctrine of theoretical and practical dentistry as it was then known and practiced.

15. GIOVANNI BATTISTA MORGAGNI (1682-1771). *De Sedibus, et Causis Morborum per Anatomen Indagatis Libri Quinque*, 1761. Morgagni's studies constituted a foundation of modern pathological anatomy.

16. LEOPOLD AUENBRUGGER (1722-1809). *Inventum Novum ex Percussione Thoracis Humani et Signo Abstrusos Interni Pectoris Morbos Detegendi*, 1761. Auenbrugger described the technique of percussion and the sounds made in various diseased conditions of the chest.

17. EDWARD JENNER (1749-1823). *An inquiry into the causes and effects of the variolae vaccinae, a disease . . . known by the name of the cow pox*, 1798. Jenner's work is one of the greatest triumphs in the history of medicine" and is the foundation of all subsequent work in immunology and virology.

18. PAOLO MASCAGNI (1755-1815). *Prodrome d'un ouvrage sur le système des vaisseaux lymphatiques*, 1784. Mascagni discovered the complexities of the lymphatic system and a simple, ingenious injection technique using mercury.

19. RENÉ THÉOPHILE HYACINTHE LAËNNEC (1781-1826). *De l'auscultation Médiate, ou Traité du Diagnostic des Maladies des Poumons et du Coeur*. 2 vols., 1819. Laennec's invention of the stethoscope was the most important advance in physical diagnosis between 1761 and 1895.

20. WILLIAM BEAUMONT (1785-1853). *Experiments and observations on the gastric juice and the physiology of digestion*, 1833. Beaumont investigated the process of digestion, examined gastric juice, and studied the effects of temperature, exercise, and emotions on the digestive process.

21. THOMAS ADDISON (1793-1860). *On the Constitutional and Local Effects of Disease of the Supra-renal Capsules*, 1855. Addison identified two chronic diseases of the adrenal gland: Addison's disease and pernicious anemia (Addison's anemia), the most important primary disease of the blood. His work is fundamentally significant in the study of the endocrine glands and the treatment of pleuriglandular diseases.

22. CHARLES DARWIN (1809-1882). *On the Origin of Species by Means of Natural Selection, or, The Preservation of Favoured*. Darwin conceived the theory of natural selection.

23. SIR JAMES YOUNG SIMPSON (1811-1870). *Account of a new anesthetic agent*, 1848. Simpson was responsible for introducing the use of chloroform as an anesthetic during childbirth.

24. JOHN SNOW (1813-1858). *Snow on Cholera*, 1936. Snow is considered to be one of the fathers of epidemiology, because of his work in tracing the source of a cholera outbreak in England.

25. FLORENCE NIGHTINGALE (1820-1910). *Notes on Nursing: What it is, and What it is not*, 1860. Florence Nightingale is the greatest figure in the history of nursing.

26. RUDOLPH LUDWIG KARL VIRCHOW (1821-1902). *Die Cellularpathologie in ihrer Begründung auf Physiologische und Pathologische Gewebelehre*, 1858. Virchow is considered the greatest pathologist of all time.

27. LOUIS PASTEUR (1822-1895). *Études sur la Maladie des Vers à Soie*, 1870. His work led to the pasteurization process and discovering that prevention and cure of disease by inoculation with artificially grown cultures of the bacilli.

28. JOSEPH LISTER (1827-1912) "On a new method of treating compound fractures, abscess, etc." (In Lancet, v.1 Jan-Mar. 1867, pp. 326-329). Lister discovered a chemical means of preventing infection.

29. ROBERT KOCH (1843-1910). *Die Aetiologie der Tuberkulose*, 1882. Developed the young science of microbiology. His work in culturing, staining, and microscopy provided the basis for tests and procedures which are now standard in clinical diagnosis.

30. WILHELM CONRAD RÖNTGEN (1845-1923). "Ueber eine neue Art von Strahlen. Erste, [Zweite und Dritte] Mittheilung" (In Annalen der Physik, Neue Folge. Vol. 64 (1880). Discovered x-rays and developed of the field of radiology.

31. SIGMUND FREUD (1856-1939). *Die Traumdeutung*, 1900. Freud's work remains the basis for much of modern psychoanalysis and psychotherapy.

32. MARIE SKLODOWSKA CURIE (1867-1934). *Traité de Radioactivité*, 1910. Marie Curie, and her husband Pierre, discovered polonium and radium. In 1911, she was awarded the Nobel prize for chemistry. She was the first woman to win a Nobel Prize, the first person and only woman to win twice, and the only person to win twice in multiple sciences.

33. FRANCIS HARRY COMPTON CRICK (1916-2004) and JAMES DEWEY WATSON (1928 -). "Molecular structure of nucleic acids: A structure for deoxyribose nucleic acid". [In *Nature.* Vol. 171 (1953)]. Crick and Watson helped discover the structure of DNA, the genetic substance of all living cells: a double helix consisting of a pair of strands of polynucleotides coiled together.