Early Ripples of Modern Medicine

* Dr. Sajikumar. J

Medicine began as an art and gradually evolved into a science over the centuries. If we trace the history of medicine from antiquity to modern times we will find that the medical knowledge has derived to a great degree from intuitive and observational propositions, fortified by evaluating interpretations. Postage stamps have vividly depicted this infantile history of modern medicine.

ANATOMY

Leonardo Da Vinci (1432-1519) the master painter and genius made much contribution to anatomy & physiology. He was the first to give accurate anatomic drawings of the different parts of the body, showing bones, muscles, nerves, heart with correct position of valves, embryo in the womb and cavities of the skull.

The Anatomy Lesson – In this famous painting by Rembrandt on a Togalaise stamp, Dr. Tulp teaches the anatomy of arm muscles to a group of students.

Andreas Versalius (1514-1564) of Brussels is regarded as the father of anatomy as Da Vinci’s book was kept uncared for 300 years. He performed many dissections. His famous book ‘De Humani Corporis Fabrica’ (The fabric of human body) was published in 1542. This book replaced the texts of Galen & Avicenna.

School of Anatomy & Surgery of Malta was founded in 1676 by Giuseppe Zammit & Nicola Cotoner.

Marcello Malphigi (1628-1694) great Italian anatomist. His discoveries in microscopical anatomy upset ancient medical beliefs and set the course for modern physiology. Many eponyms like Malphigian body, Malphigian corpuscle etc were named after him. Josef Hyrtl (1810–1894) was an Austrian anatomist who wrote the Handbook of Human Anatomy, in 1846, and it was well received being translated into all of the major languages and eventually went to 20 editions.
Johannes Purkinje (1787 – 1869) Czech physiologist, a pioneer in anatomy & physiology. His histological discoveries include the sweat glands; the neurons of the cerebellum, Purkinje’s fibers of the heart.

François Magendie (1783 –1855) French physiologist, considered a pioneer in experimental physiology. He is known for describing the foramen of Magendie. He was a notorious vivisector, shocking many with the live dissections that he performed in public.

Karl Rokitansky (1804–1878) of Vienna was a great anatomist, having done more than 30,000 autopsies. He was the first to detect bacteria in the lesions of infective endocarditis, published a great monograph on diseases of the arteries, and described congenital cardiac anomalies.

William Harvey (1578-1658) of England. A keen investigator, he performed many experiments in early 1600 to learn how the blood circulates in the body. Harvey described his findings of the mechanisms of human blood circulation in his book ‘De Motus Cordis’ in 1628. The discovery of human blood circulation is one of the greatest discoveries of all time, and with it William Harvey earned eternal fame.

FORERUNNERS OF GERM THEORY

Girolamo Francastoro (1483-1553) gave early conception of contagious diseases in his book ‘De Contagione’ and proposed that epidemic diseases are caused by transferable “spores”. Famous for his poem on syphilis.

Paracelsus (1492 –1541), German physician. Most advanced & controversial doctor of his time. He defied medical tenets of his time asserting that diseases were caused by agents that could be external to the body and that they could be controlled by chemical substances. Famous for the introduction of mineral source of drugs.

Agostino Bassi (1773-1856) a man studying law, had hypothesis on contagious diseases. He preceded Louis Pasteur in the discovery that microorganisms can be the cause of disease. Introduced treatment and prevention of cholera.

Pierre Bretonneau (1778-1862) first to form the theory of origin and communication of infectious diseases that antedated the Germ theory. Bretonneau is one of the pioneers of modern medicine. He identified typhoid fever and named diphtheria.

Ambrose Pare (1510 – 1580), French surgeon whose practical skills and humaneness distinguished him from his contemporaries. He did away with the practice of cauterizing wounds with boiling oil. Introduced new techniques of wound treatment, ligation of blood vessels to control bleeding, new device for amputation and many new appliances.

François Rabelais (1494-1553) French physician and literary worker. Translated works of Hippocrates and Galen. Wrote a famous parody satirizing the prevailing medical superstitions.

Ignaz Semmelweis (1815-65) Hungarian obstetrician, alarmed at the high mortality of mothers in the obstetric wards, soon found that sepsis was the cause. He insisted on strict cleanliness.
and the result – miraculous decrease in mortality rate. He published ‘Sepsis and its Prevention’ in 1861.

DAWN OF PATHOLOGY

Lazaro Spallanzani (1729–1799) of Italy, made many important medical discoveries, including the fact that gastric juice can prevent putrefaction. He also carried out key experiments disproving the concept of spontaneous generation.

Rudolf Virchow (1821-1902) of Germany was the greatest exponent of pathology for which he is called ‘The Father of Modern Pathology’. In 1858 he published the article ‘Cellular Pathologie’ in his journal ‘Virchow’s Archives’ which replaced the humoral theory of Hippocrates and Galen.

Claude Bernard (1813-78) one of the greatest physiological investigators of all time, made pioneering works like (1) glycogenic functions of liver and its role in diabetes(2) role of pancreatic juice in diabetes (3) discovery of vasomotor system of nerves. Victor Babes (1854-1924) Romanian pathologist. He worked untiringly to establish the theory of ‘Cellular Pathology’ as the cause of diseases. Prolific writer. Many eponyms after his name. Camillo Golgi, 1844–1926, Italian physician, neurologist and histologist. He shared with Ramón Cajal the 1906 Nobel Prize in Medicine for work on the structure of the nervous system.

THE THEORY OF EVOLUTION

Charles Darwin (1809-1882) British naturalist who revolutionised the study of biology and medicine with his theory of evolution based on natural selection. His most famous works include ‘Origin of Species’ (1859) & The Decent of Man’ (1871).

CLINICAL DIAGNOSIS

The process of clinical diagnosis was perfected in the 19th century. Many felt that what was then known of therapy was so poor that the brightest physicians should devote themselves to diagnosis rather than employ invalid therapy. Whatever the merits of this stance, its leading exponent, the Czech physician Joseph Skoda (1805 – 1881), laid the groundwork for the diagnostic process as it is known today.

TOOLS FOR DOCTORS

Anders Celsius (1701-1744) For his metereological observations constructed his world famous Celsius thermometer, with 0 for the boiling point of water and 100 for the freezing point. After his death in 1744 the scale was reversed to its present form.

R.T.H.LAENNEC (1781-1826) one of the greatest French physicians invented the stethoscope in 1819 and pioneered its use in diagnosing various chest conditions. It was at first a simple paper cylinder but later modified to its present form. This method of auscultation became widely accepted and added a new chapter in clinical diagnosis. He described many diseases accurately and at the prime of his career died of tuberculosis.