

"As Dan W. Dodson points out, "The history of inter-group relations in the nursing profession is interesting and exciting." Like every other group, however, we are still short of our goal and we do need to go beyond the stage of what is, to the promise of what can be."

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More Pioneers in the Art of Healing.

By David Gunston.

FOLLOWING MY RECENT series of articles on "Pioneers in the Art of Healing" in these pages, it has been suggested to me that I mention some of the other and lesser-known figures of history, to whom medicine, hygiene and the art of healthful living owe so much. For various reasons these other pioneers do not justify individual articles, but I will endeavour to mention some of the more interesting ones together in this contribution.

Outstanding among the very earliest of such men is a Greek commonly known as Hippocrates, who was born at a place called Cos about the year 460 B.C. The history of medicine rightly begins in the Greek era, for the Greeks were the first to apply scientific methods to combat illness, instead of as hitherto, ascribing all disease to the work of evil gods and consequently doing nothing about it. We actually know very little about Hippocrates, other than that he was a learned and much-respected figure who travelled widely. His fame lies in the famous collection—the Hippocratic Collection—of early medical treatises, the best of which he is believed to have written. He was the first to study symptoms objectively and was a very acute observer with a remarkable knowledge of what has since become known as medical science. He arranged diseases under the four main heads of chronic, acute, endemic and epidemic, and although his belief in the four "humours" of the body, blood, phlegm, yellow bile and black bile, may seem rather primitive now, his teaching of related medical knowledge and the endless gaining of fresh information from a study of cases was unique and lasting in its effects. His name is given to the famous Hippocratic Oath, of which it has been said that it has set for ever the ethical seal upon the practice of medicine, although it is not known for certain whether he composed it in its present form.

Some worth as a student of medical knowledge also attaches to Aristotle, who was born in 342 B.C. and, as the famous pupil of Plato, is better known as a philosopher than as the biologist he also was. He pioneered in dissection and made some enquiries into the question of heredity and the origins of life. He held the quaint belief that the heart was the seat of intelligence, the brain functioning merely to cool it down when over-heated. It was through his work and teaching that the great Alexandrine medical school came into being about 300 B.C. which existed for two centuries and which gave rise to such men as Herophilus, recognised as the father of anatomy from his study of the brain and the nervous system, and Erasistratus, who taught, amongst other things, the benefits derived from cleanliness, hygiene, adequate diet and exercise.

Rather later appear the figures of Celsus, a Roman born about A.D. 30, who wrote the first known medical book in which he anticipated much modern surgery, particularly for the removal of the tonsils and goitres, and Galen (about A.D. 130-201), a Greek living in Rome, whose treatises, about half of which were fallacious, influenced medical thought and practice right up till the end of the seventeenth century.

Another outstanding figure is that amazing genius, Leonardo da Vinci, who was born in 1452 in Italy. Although remembered most as an artist and a scientist, he was a pioneer in the study of anatomy, originally for the purposes of his art, and also of the study of the heart, his dissections of and experiments with which were far ahead of his time. From his

beautifully-illustrated notebooks we can now see that his knowledge of human anatomy was almost comprehensive and he led the way to a fuller understanding of the working of the human body.

Leonardo's work was soon followed up by that of Andrea Vesalius (1514-1564), a Belgian who worked mostly in Italy. In 1543 he published *The Fabric of the Human Body*, an outstanding treatise which swept away much of the false knowledge put about by Galen and others previously. The progress of all these men and their followers was slow and arduous. A typical figure is that of Serveto (1509-1553), a contemporary admirer of Vesalius who made some then quite new discoveries about the circulation of the blood when he was condemned to death by the Inquisition. He escaped but was later burnt at the stake in Geneva.

Rather more recognition was, however, given to the services to mankind of Ambroise Pare (1517-1590), a French army surgeon who put the teachings of Vesalius to practical use on the battlefields of the time. He was spared massacring during a religious purge undertaken by his fellow-countrymen, for his work was widely appreciated. He abolished the then customary practice of dressing gunshot wounds with boiling oil and also introduced the ligature system of preventing loss of blood after amputations. Artificial limbs, some of them very ingenious, and technique for difficult childbirths were other topics upon which he did valuable work.

Another notable pioneer, although of a very different sort, was William Harvey (1578-1657), famous as the discoverer of the circulation of the blood. He became a protégé of Charles I and his actually simple work on physiology startled the world of his day. In his book on the subject, published in 1628, he proved without any doubt that the blood flowed continuously in one direction from the heart to the extremities. Harvey's work made a tremendous stride forward, but he did not explain how it is that the blood reached the veins from the arteries, and this further discovery was left to Marcello Malpighi (1628-1694), an Italian who became a member of the Royal Society. He showed the existence of the capillaries by means of a microscope, for optical science was slowly advancing too. He also discovered the red corpuscles in the blood and paved the way for the equally startling work of Antonj van Leeuwenhoek (1668-1723), who made the first drawings of bacteria. Leeuwenhoek also did much work on the fibres of the muscles, and was the first man to describe spermatozoa. Between them, he and Malpighi amplified the account of the circulation left by Harvey.

In spite of his scholastic deficiencies, much credit is also due to Thomas Sydenham (1624-1689), a far from learned yet admirable practical physician who gained much success among his patients, adopted an entirely new approach to disease, which he held was no more than a vigorous effort on the part of nature to throw off "morbific matter" and thus recover the patient, and, above all, stressed the importance of the doctor being in sympathy with his patients. Sydenham's work was often ridiculed by the scholarly, but there is now no doubt of its worth.

To end this brief survey of some of the lesser-known practitioners and researchers in the art of healing, mention must be made of John Hunter (1728-1793), a rough incoherent boy who became the greatest surgeon of his time. By way of dissecting-room assistant to another doctor and the post of naval surgeon during the French and Spanish Wars, Hunter rose to become surgeon at St. George's Hospital, London. From then on his boundless energy directed itself to the alleviation of suffering among his patients, the advancement of surgery and countless searchings for more and increased knowledge, much of it derived from a study of wild creatures and natural history, keeping large numbers of pets and live subjects in his house. Hunter's work greatly influenced Jenner as a young man; and so the great line of those who seek to wipe out disease is linked through the years of history.

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