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## Medical Progress in a Changing World\*

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**O** the casual observer developments in medi-L cine may seem to represent steady progress. In large measure this is true. From time to time, however, the progress has been impeded by prejudice and narrowmindedness. Twenty-five hundred years of medical history reveal the fact that the prejudices and pettinesses which impeded the development of medicine have emanated from within the profession itself. It was true in the times of Hippocrates, Vesalius, Paré, Harvey, Jenner, Laennec, Semmelweiss, Morton and Lister, and it is true today. Throughout the centuries, however, there was always the beam of intellectual enlightenment amidst the darkness. The men of hope, vision and fortitude in our profession were represented by this beam.

The "Father of Medicine," HIPPOCRATES, took exception to the concept prevalent in his time that disease is caused by the vengeful scheming of the Gods. His concept that disease was some natural disorder of the body and not a curse of the Gods was strongly discredited; his contention against the offering of sacrifices to Hecate and Apollo as an inducement to them to remove the curse from the sick, was pure heresy.

CLAUDIUS GALEN (in the third century, about 200 A.D.), with no human specimens for dissection, relied on what could be learned from dissections on the Barbary ape. His descriptions of several muscles remained the most accurate for several centuries. Though his work left much to be desired as far as the anatomy of the human body was concerned, Galen pointed the way for the fulfillment of our present accurate knowledge of the structure of the human body. That advance remained for Andreas Vesalius to pioneer several centuries later.

The crowning contribution of Vesalius to medical education is his book, De Humani Corporis Fabrica (1543). (On the Structure of the Human

\* Read at the annual banquet of the Homer G. Phillips Hospital Internes Alumni Association, St. Louis, Mo., April 26, 1951. Body). Of this work, Sir William Osler said it is "The greatest book ever printed." In the interim, between the 3rd and 16th centuries, the name of Galen was revered. In many quarters the prejudices of doctors rendered them antagonistic to any concepts other than those recorded by Galen. For example, SYLVIUS (Jacques Duboid 1478-1555), under whom Vesalius had gone to Paris to study, during one of his lectures, held up Galen's book "De Usu Partium" and said, "Learn well from it, young man, for I tell you that progress beyond Galen is impossible. He has said all that there is to be said about the human body." Because Vesalius, a young man of 29, dared to contradict Galen and demonstrated from dissection of the human body of the structure thereof, Sylvius, his own teacher and others became embittered and publicly attacked Vesalius. This they did with such bitterness that Vesalius became so disheartened and discouraged that on one occasion he gathered up a pile of his valuable lecture notes and threw them into the fire. On one occasion Vesalius is reported to have remarked, "I'm sick and tired of fighting all the ignorance of Europe alone. I've done everything I could to show men the truth. But, let me give you a little piece of advice, dear friend, men don't like to have the truth shoved down their throats. And I, on the other hand, have no intention of waiting patiently until they're ready to listen to me." He gave up his professorship of Anatomy at Padua to become physician to Charles V, and later to Charles' son, Phillip, II. Members of the profession connived to have Vesalius convicted of murder, only because at an autopsy, which he was called upon to perform, the heart within the body was found palpitating feebly for a few seconds after he had opened the thorax. It was only Vesalius' association with the King that saved him and the sentence was commuted to a pilgrimage to the Holy Land.

AMBROISE PARE (1510-1590). It was the

medical profession which rose up against Ambrose Paré because he dared to defy the traditional surgical procedure of pouring boiling oil into a wound or of sealing an amputation stump with a red hot iron. Paré used his so-called "digestive" (turpentine, oil of roses, and egg yolk) on wounds instead of boiling oil; he used sutures for the first time instead of the red hot iron in surgical procedures. Because Paré had eliminated the intense pain, sleeplessness, and inflammation, and death caused by use of boiling oil and the red hot iron, his colleagues attempted to discredit him.

WILLIAM HARVEY (1538-1657). William Harvey published his work on the circulation of the blood approximately 100 years after Vesalius had published the *Fabrica*. Like Vesalius he too had dared point out error in the teachings of Galen. Harvey was assailed, but not with the same degree of prejudice and bitterness as was Vesalius. This may be interpreted as a sign of growth within the profession.

Medical history tells us, however, that although Harvey was the most significant person in seventeenth-century physiology, he was strongly opposed within the profession. His opponents, we are told fell into two categories: those men of small caliber, who out of pettiness were jealous of his demonstration, and those men whose prejudices still bound them rigidly to the Galenic teachings. There was, however, a group of courageous physicians who came vigorously to his defense. They were the beam of light and hope in that hour.

EDWARD JENNER (1749-1823). But for the majestic humility of Edward Jenner, there is no way to determine to what extent smallpox might be taking its toll in human life. The story goes that Jenner, as an apprentice to Dr. Ludlow of England, was watching the doctor bandage the cut finger of a milkmaid. The doctor commented on the number of persons who were dying from smallpox and stated to the milkmaid that even she, as beautiful as she was, might be next to die of smallpox. The maid responded, "Bless you, no sir, I cannot take that disease." "And why not, pray?" "I've had the cowpox," she said. Dr. Ludlow grunted in amusement at this popular "superstition." Jenner, however, was able to hear even the words of a milkmaid and to reflect upon their so-called "superstition." Years later, with the words of the milkmaid still ringing in his ears, he experimented with cowpox and the result was the production of a successful technique for immunization against smallpox. After inoculating twenty-three persons with material taken from a cowpox pustule, and after noting that they did not contract smallpox, Jenner published his results under the title "Inquiry Into the Cause and Effect of Cowpox." His colleagues in the profession held him up first as a source of amusement and ridicule, referring to him as a country doctor with nothing better to do than hoodwink the public. They next made him the object of suspicion. Finally, they became indignant toward him and charged that his practice was far more dangerous than smallpox could ever be. The people, however, not following in large measure the protestations against Jenner's ability to prevent smallpox, sought him out. For this change of approach to a successful combating of a dreaded disease, Jenner received many threatening letters, but again there were the few progressive and courageous physicians, principally in America, who championed the ideas of Jenner.

THEOPHILE RENE LAENNEC (1781-1826). The work of Laennec resulted in the use of the stethescope in auscultation, yet in his lifetime, he was charged by members of the profession of dealing a staggering blow to physiological medicine. Laennec was widely villified, especially by a Parisian physician, Francois Joseph Victor Broussais, who was on the hospital service of the renowned Jean Corviset. Dr. Broussais, referred to in some medical histories as a "rich and successful medical bully," of his day, is said to have sworn that he would crush Laennec and his theories, were it the last thing he did. In large measure he succeeded. Laennec heard himself jeered and ridiculed even on the streets of Paris, with little children emulating their parents by jesting about his physique as well as about his theories. Broussais had them laughing at how "absurd and ridiculous" was the thesis that tuberculosis is contagious, and that it is caused by some specific agent. Broussais gibed that soon Laennec would be telling them that there were little creatures floating around in the air that gave people tuberculosis. Although Laennec was loved by his patients, the ridicule of the people of Paris and of the medical press was more than he could stand, and five years of Broussais' campaign against him found him completely broken in health.

IGNAZ PHILLIP SEMMELWEISS (1818-1865). Very few notices which are posted in hospitals long endure. I read you one which did. "Beginning today, May 15, 1847, every doctor or student coming into the Lying-in-Clinic from the Dissecting Room must positively wash his hands in the basin of chlorine water provided at the entrance. No exceptions to this rule. I. P. Semmelweiss."

It was a memorable day in medical history when this notice signed by Semmelweiss appeared on the door of the maternity clinic at the Vienna Hospital. From that day deaths from "childbed fever" began to decline. Semmelweiss soon added to the rule of May 15, 1847 another, namely, "All persons must wash their hands before entering the wards." To this, he added still a third rule, "Hands must be washed in chlorine water between the examination of patients." For the institution of these rules Semmelweiss was jeered at and ridiculed by the medical profession. It is stated by medical historians, including Ruth Fox, that Semmelweiss was discouraged, but not overly surprised. Understanding that it was humanly impossible to break down the prejudices of older men, Semmelweiss decided to ignore them and let them go on killing patients, since he could not forcibly prevent the tragedy. He would turn his attention to the students, the coming generation of doctors-his greatest hope. They were not so encumbered with professional dignity that they could not see truth when it was unequivocally revealed to them.

WILLIAM T. G. MORTON (1819-1868). The history of William T. G. Morton in successfully demonstrating the use of ether in surgical operations at the Massachusetts General Hospital in 1864; Joseph Lister's expressed dissatisfaction with the terms "first intention—second intention —laudable pus" and the phrase "cosmic atmospheric-telluric disturbances" as the etiological explanation for pus formation; and his daring proposal and use of antisepsis and asepsis in surgical operations, revealed similar stories of a struggle against prejudice and pettiness within the profession. Their greatest crime was their efforts to alter the status quo.\*

In the nineteenth century, medicine made its most outstanding progress as a science; in that period the groundwork for our twentieth century progress was laid. The nineteenth century gave us such great persons as Helmholtz, Claude Bernard, Schleiden and Schwann, Virchow and Roentgen. The twentieth century finds us armed with such powerful weapons as the sulfonamides, antibiotics, cortisone, etc. Death from disease is strikingly reduced in areas where adequate medical care is available. Fewer children die and adults may live longer. One of the great problems of today is finding the means of making the advanced knowledge of medical science available to all people everywhere. Again prejudice and short sightedness proved to be barriers of consequence. Although to many the attainment of this ideal is remote, there are signs that we may be on the brink of the profession's greatest contribution to the establishment and preservation of human dignity for all peoples everywhere.

The realization on the part of peoples of the world that people in some quarters do live long and enjoy good health, places demands and responsibilities upon the medical profession never before equalled. If we are to retain the position of trust and confidence which the profession has so long enjoyed, we must meet the demands of our time and meet them unequivocally. The organized medical profession in its expensive fight against legislation designed to give all of our people the full benefit of modern medical care, suggests another form of prejudice of the profession in the United States. The charge against the profession of being not only prejudiced, but also reactionary is understandable.

In the Washington, D. C. Post, under date of April 21, 1951, there appeared an editorial under the title, "Training Doctors." The editorial discussed the shortage of qualified medical practitioners and the seriousness of this situation to our country under present day conditions. Among other things, the editorial made this statement: "The elements of the medical profession who have been responsible for blocking proposals to extend Federal Aid to medical institutions for the education of additional doctors bear a terrible burden on their consciences." The evidence to the people that not all of the medical profession is unmindful of the benefits accruing to the Ameri-

<sup>\*</sup> v. also, Editorials in this Journal, March 1950, pp. 112-115. (Editor's note.)

can people through Federal Aid to our medical schools is the fact that the Association of American Medical Colleges speaking for seventy-one of the seventy-nine member medical schools is supporting legislation now pending in the Senate for Federal Aid to Medical Education. This stand has been taken in spite of the fact that the American Medical Association is opposing this same legislation.

For years the larger percentage of Negro physicians has been excluded from membership in the organization of physicians which is consulted and which speaks for the medical profession. Their exclusion is due to the fact that membership in the American Medical Association is contingent upon membership in the recognized local medical society. In many states Negro physicians are excluded from membership for no reason other than the fact that they are Negroes. Because the Medical Society of the District of Columbia excludes Negro physicians from membership, Negro physicians in the District of Columbia, including those who are members of the faculty of the College of Medicine of Howard University, are excluded from membership in the American Medical Association.\* But even in the areas of race prejudice, there are evidences of hope for the future. Medical Societies in Florida, Maryland, and Missouri have pushed aside the racial barrier to membership. The State Medical Society of Virginia has challenged the evil practice and fell short of victory by but a few votes. Some medical schools which heretofore have not admitted qualified Negro applicants are now accepting at least a token number. Many hospitals which heretofore have not accepted Negro medical graduates as internes are welcoming and accepting Negro medical graduates.

Homer G. Phillips Hospital is proof conclusive of the presence in St. Louis of medical men who are not only men of science, but who are men of honor, vision and courage. As a result of their efforts and the interest of faculty members at Washington University and St. Louis University Schools of Medicine, Homer G. Phillips Hospital is an outstanding center for graduate training for Negroes. The work of Homer G. Phillips Hospital has been so significant in graduate medical

\* On May 4, 1951, this Society reported that a poll of its 1381 members showed that 674 favored admission of Negro physicians and 290 did not. (Editor's note.) education for Negroes that its history should be written.

The Association of American Law Schools has taken a stand for the elimination of racial segregation and discrimination through the adoption of the following resolution:

"BE IT RESOLVED, that the Association of American Law Schools opposes the continued maintenance of segregation or discrimination in legal education on racial grounds, and asserts its belief that it is the professional duty of all member schools to abolish any such practices at the earliest practicable time."

I should like to have every physician and every medical educator here assembled resolve unto himself that he will urge the American Medical Association and the Association of American Medical Colleges to adopt as forthright a statement of policy as has the Association of American Law Schools.

The people look to the medical profession hopefully and longingly. If our great country is to dispel the doubts and suspicions held by so large a segment of the peoples of the world about our integrity and sincere belief in the democratic form of government, the professions must lead the way. We in the medical profession must not fail our country in this grave period; we must prove unequivocally our belief in a truly democratic form of Government; and we must demonstrate our conviction of the worth and dignity of the human individual.

In closing, I do salute in respect and esteem those noble and honorable men from the faculties of Washington University and St. Louis University Schools of Medicine who gave freely of themselves in the development of Homer G. Phillips as a center for graduate medical education. The fine work which they started and which, with the help of others, has developed so well, must be seen only as a beginning of a unified program in which men of good will work together without racial, religious or nationality barriers. Prejudice and hate are costly evils and should be eliminated from our profession. Until they are eliminated, I urge those of you here who may be hated not to give way to hating but with love and high moral purpose make your contribution for a better world. May your noble work long prosper for the good of all mankind.