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The Place of the Humanities in Medical Education

BY

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The word science is derived from the Latin *scientia*, which means knowledge. There are many compartments of science such as moral, political and natural, but the word "science" in its modern sense means an organised body of knowledge.

Natural science is that which comes from awareness of the material environment in which we live. It is gained firstly by observation and also from the results of experiments which may be defined as situations planned to test the truth of an hypothesis. The words "truth" and "logic" prepare us for the idea of the "scientific method," which is a system of accurate reasoning whereby knowledge becomes objectively exact.

Observation and the use of the scientific method date from the earliest known civilisations in various primitive attempts to explore the universe around them, but it is only during the past three centuries that steady progress in the study of natural science, with ever-increasing momentum, has been achieved. The modern forward thrust in the biological sciences began in the middle of the nineteenth century under the stimulus of Darwin's theory of evolution, followed by T. H. Huxley's fiery enthusiasm for its interpretation and his innumerable zoological researches. It was an amazing galaxy of natural scientists who appeared during the latter half of the century. There were Lyell, the geologist, Hooker the biologist, Tyndall the botanist, Clerk Maxwell the physicist, Adams the mathematician, who predicted the time and place in the sky where Neptune would be found, Michael Foster the physiologist and J. J. Thompson, who discovered that the little round particle which was considered to be the ultimate atom was in fact a complex system of revolving charges of electricity which he called electrons; Sigmund Freud, on the border line, who laid the foundations of modern psychopathology and many other equally famous pioneers until the present day. These men unrolled some of Nature's secret parchments. The gathering momentum of scientific discovery has overwhelmed modern thought

to such an extent that the people of to-day, in all civilised countries, are being conditioned to believe that the study and knowledge of the natural sciences are the essential and almost the only form of education which is worth while. This is not surprising in view of the modern applications of both biological and physical discoveries to the prevention and curing of disease on the one hand and the increasing amenities and pleasures which physics has made available for social and domestic life in the home. Further, the threats of war which have disturbed the easy enjoyment of life in all the nations of the world for many years, and especially since the end of the last war, have turned men's thoughts to their dependence on the military application of scientific discovery for the defence of all that is inherent in modern civilisation. The more terrible are the bombs and missiles, ultimately derived from the laboratories of the physicists, the surer it is hoped will be defence in war. Again, is it surprising that the sciences have fastened men's minds almost to the exclusion of any other form of education and learning?

We, as students of medicine, have not escaped the universal worship at the shrine of natural science. It is obvious in the modern trend of our early training and later in our approach to the patient, who is coming to be regarded as no more than a vehicle of some form of biochemical disorder which can only be resolved by resort to chemical tests, radiology and electrical analysis. It is certainly true that these purely physical and chemical methods of diagnosis and treatment of illness have immensely increased our knowledge and revolutionised the success of treatment. We have only to remember the lengthening span of life, the dawn of hope when there was none, the relief of distress, pain and limitation of normal activity, the advances in anaesthesia which have made possible the widening extent of surgical access, the phenomenal reduction of maternal mortality and loss of the youngest children, the defeat of infections by the sulphur drugs and antibiotics, the destruction of diphtheria and, perhaps most promising, the therapeutic prospects of the alleviation and even cure of much mental illness. There remain the rigid problems of cancer and degenerative nervous diseases.

This review is obviously not complete; it is merely a sketch of progress in medicine which can be expanded by all my readers as they review the advances during the past forty years. It is truly an impressive progress which has never known an equal in all the centuries.

Surely it may be claimed by the teachers of medicine that such an astonishing progress in so short a time justifies the scientific mould of the curriculum and, perhaps, with still more scientific specialism, progress may be even more rapid. It is certainly true that further advances in physiology and of pathology will be gained by application of the scientific method, but what we must ask ourselves, is the question of how far can this modern change in teaching students turn out the best doctors.

Let us depart for a moment from the special consideration of medical education which, of course, marches in step with the general scientific trend of all education to-day, and very briefly review the intellectual fashions in this country since the Reformation of the seventeenth century. Until this epoch men were constrained by the authoritarian teaching of the all-embracing Catholic Church. The Reformation released thought and enquiry into the mysteries of Nature which encouraged scepticism and scientific materialism. The first half of the seventeenth century, dominated by the works of Voltaire and other sceptics, divided the nation into the lower orders, brutalised by gin and loss of faith—so well portrayed by the pictures of Hogarth—and an upper class, equally faithless, devoted to the sceptic ridicule of all that belongs to the spirit. The materialism of science was their god. But, as always, a reaction followed in the second half of the century under the influence of John Wesley, who taught the hungry masses a new hope in faith; and the romantic poets, who, delving into the past, brought back to the people the scope and beauties of the imagination. They taught, as I think, the reality of unreality, which is romance. Again, in the latter half of the nineteenth century, another reaction of scientific materialism followed, like that I have already described, which has endured to our time with an increasing grip on our people. History never quite repeats itself, though there are general phases and trends which roughly follow the past.

As I see it to-day, we are passing through the sterile phase of the age of the faithless sceptics and scientific materialists of the first half of the eighteenth century. Not sterile in the advance of scientific knowledge, command over Nature, capacity for destructive violence in war or progress in domestic amenities, but sterile in idealism and all that this means for the happiness of mankind. We live in an age of technocracy.

Let me now take you back two thousand five hundred years to ancient Greece. Spengler, the German historian, tried to show in his *Decline*

of the West that each of his postulated eight civilisations had produced an outburst of cultural achievement at an early stage in its life history which flowered at its ideal for only two or three hundred years. In the West we call this strange phenomenon the "Renaissance" because it was believed to be a rebirth of art and knowledge derived from the then recently discovered treasures and writings of the Greeks of the fifth to the third centuries B.C. During this astonishing period the Greeks reached heights of speculative philosophy on man's nature and his relation to the universe, the art of logical reasoning, the drama, poetry, history and the plastic arts of sculpture and architecture which have never been surpassed. But they had no sense of time, no clocks, no Gothic aspirations, painting or music as we know it in the West. Not only did the Greeks excel in the cultivation of their arts, but also they seemed to worship the beauty of the human body, which reached its highest form by physical training and sport. Their Olympic Games played so great a part in the life of Greece that if the festival clashed with one of their many city-state wars, a truce was declared to allow of no interference with the meeting of the champions. This brief reference to the Greek ideals is enough to show that they cultivated and admired man in the round. They hated specialism, despite the high training of athletes, for these champions were more than athletes. The specialist was considered to be lopsided and therefore one who missed the other essentials of the full life. The Greeks had a word for him, "banausos," which originally meant a technical mechanic or a "low, vulgar, illiberal" fellow. He was despised by the Greeks to such an extent that when Themistocles had saved his country by defeating the might of the Persians, as one of the greatest Athenian generals, they turned on him because they argued that so skilful a soldier must be a specialist and therefore without a liberal education.¹

Now have we anything to learn to-day from the Greek way of life? In the modern world it is obvious that some degree of specialism is essential. We must have engineers, doctors, lawyers and many others devoted to the practice of their chosen skills, and so great is the corpus of knowledge in any one calling that, as we know in medicine, specialism within a specialism is necessary for the further advance of the growing points of enquiry. Nevertheless are we not in danger of pursuing our various crafts to such an exclusion of what we know as the "humani-

ties" that we are producing lopsided students and graduates? But does it matter if we are? What are the humanities? We may define the concept of the word as the whole content of thought, culture and creative activity which does not belong to the natural sciences. They are the arts in the widest sense of the word, including our literature, history and the classics of Greece and Rome. More and more is the study of the arts neglected in the early education of the modern student in this country in order to save his time for learning chemistry, physics and biology as early as a schoolboy of 16 years. When at 17 or 18 he joins his medical school he has said good-bye to any further general education, for both pre-clinical and, later, clinical studies will absorb all his time and energy.

As the purpose of medical education is to produce a doctor equipped with knowledge of his craft and practical skill in its application to the diagnosis and treatment of patients, it would seem that the present-day scheme of training would be eminently successful. It is certainly true that the new graduate will have a wide knowledge of biochemistry, methods of diagnosis and the indications for new treatments far ahead of the students of my early days, but it is questionable whether all this acquaintance with disease will equip him as a doctor really fitted to handle patients. It teaches him to regard the patient as the disease. Despite the efforts of the various sub-specialists to include time for their own narrow lines into an extending curriculum, one serious defect of medical education is the failure to exalt the necessity for teaching the motives and mechanism of the mind. Psychology is the basis of any intelligent understanding of the psychosomatoses and psychiatry, but as the structure of the curriculum is laid down by the preclinical professors, biochemical physicians and the craftsmen of surgery, how can we expect that training in psychology is regarded with anything but impatience? And yet all experienced general practitioners and a few enlightened specialist physicians well realise that the majority of their patients are suffering at first from disturbances of function due to emotional storms or defects of personality. It is true that psychology is not a test-tube science and does not lend itself to exact measurement, but then man is not an exactly reacting animal to any stress which may erode his physical health. Psychology teaches us the working of the mind and emotions, which are the chief part of ourselves—not the body, for the upward movement from primitive barbarism

is the product of men's minds. It must be admitted, therefore, that this one of the humanities at least is essential for understanding the nature of illness and thus an important part of the equipment of a good doctor. There is or should be no difficulty here, but what of the value of the other humanities which comprise the arts and literature? How can some knowledge of and an interest in them so mould a student of medicine that he will be a better, more understanding and efficient doctor than he who has been trained only in the natural sciences from his boyhood? Is it possible to maintain that a well-read man or one who delights in music or finds some inner joy in a knowledge of the pictures of the great masters of the world is better equipped for removal of the appendix, diagnosing an anaemia or managing a young mother through her pregnancy and labour? It is quite clear that our "scientific" surgeon can be and usually is a master of the technique of appendicectomy and other operations, but is he as able to make the diagnosis of organic appendicitis as clearly as one who has been trained in a knowledge of man as a thinking and sentient individual? We have only to remember the number of normal appendices which are found at operation to realise that diagnosis has failed because of the inability to appreciate the emotional antecedents which may be the causes of pains, vomiting and many other symptoms, but so often are attributed to organic conditions. Examples can be indefinitely multiplied. The humanities teach us that man is a personality distinct from most other men and therefore as a patient must be individualised in diagnosis and treatment.

Some knowledge of men, and especially women, which is unconsciously gained by a study of the humanities, gives us insight into their minds and emotions and an understanding of the reactions of the physical body to emotional disturbances. These reactions, often described as psychosomatoses, rejected by many medical scientists, are becoming more and more recognised as realities of illness related to the emotional background. Many illnesses are clearly based upon emotional stress—for example, gastric spasm and hyperchlorhydria, which are so often the result of tense anxiety—but it is not so clearly recognised that the same kind of stress can influence the defences of the body against common pyogenic infections. It may seem that I am stretching my thesis beyond the limit of acceptance if I invite you to associate, for example, some cases of repeated attacks of

boils with emotional stress, but I am certain by my own experience that this is true. Within my own speciality of the diseases of women I feel still more justification in attributing many non-specific infections to an antecedent anxiety state. As our knowledge of psychology in relation to physical medicine is further unfolded, it is very probable that the intimate relation of the emotions and the body will be more widely recognised.

And now let me give you a totally different reason for the value of a study of the humanities. The practice of medicine may claim nearly all our thoughts and energies, but for even the busiest there are, from time to time, some hours of relaxation. It is then that refreshment of the

tired mind can be drawn from reading the old and modern English classics, from history, music and the arts. Not only refreshment but even ardent interests which will extend the horizon of mental enjoyment. My earnest advice to my young and not so young readers is to cultivate man in the round—the ideal man of the ancient Greeks. Not only our life's work, which must obviously be our chief concern, but also outdoor games, exercise and indoor devotion to something of the humanities which will both make us better doctors and expand our whole personality. Then, my son, you will be the whole man.

REFERENCE

1. TOYNBEE, A. J. A study of History (abridged), p. 305.





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