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President's Address

MEDICINE, SCIENCE, AND HUMANISM

REFLECTIONS ON THE FIRST HALF OF THE TWENTIETH CENTURY

BY

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My first duty, and it is most agreeable, is to express my heartfelt gratitude to the Association, and especially to my colleagues in Liverpool and Southport, for the honour they have done me in choosing me as their President. Can any man's ambition desire more than the affirmation by his professional colleagues of his title to fill an office which in the past has been held by such giants as Stokes and Acland, Ferguson and Russell Reynolds, Clifford Allbutt, Macewen, and Dawson of Penn? It is heartening to be assured that, despite the conflicts which are the inevitable accompaniments of our professional life in these days of change and confusion, there exists a bond of fellowship and community of spirit and understanding which softens the asperities and survives the dissonances.

My second duty is to welcome you all on behalf of my local colleagues to Liverpool and to express to them my thanks and yours for having provided for this meeting a fare, both social and intellectual, which is so rich in variety and, even at this early stage, so warmly acceptable.

My third duty is that, prescribed by custom, of delivering a Presidential Address. There is a danger, of which history gives ample warning, that at so early a stage in office a President may by high promise encourage hopes which will too often dwarf the performance. Indeed, the longer I reflect the deeper is my conviction that the appropriate time for this address is at the end of the President's year of office, when he might reasonably be called upon to give an account of his stewardship. I propose, therefore, to emulate Sir Charles Hastings in his inaugural address to this Association and to eschew current medico-political controversies. The closing year of the first half of a century is a fitting time in which to take stock. I have therefore chosen in this address to reflect on the changing order in the first half of the twentieth century and to note its influence on medical practice, training, and research. For a profession contemptuous of its own history runs grave dangers.

Changes have occurred in the pattern of disease in the past fifty years which appear to have been beyond our control. For example, chlorosis has virtually disappeared; scarlet fever has changed both in character and in severity; epidemics of encephalitis lethargica have appeared and

recrudescenced; and there has been an increased incidence of cancer of the bronchi and lungs which yet may prove to be a by-product of the manners and customs of our age—for cigarette-smoking, the fumes of motor exhaust pipes, and the surface tarring of roads have all been arraigned. But in their ultimate analysis the changes in medicine which have occurred in the first half of the century will be found to result from two major influences; first, from the rapid and vast expansion of knowledge and technical skills in the cognate sciences; and, secondly, from the evolution of our ideas of social responsibility.

A Change in Outlook

At the beginning of the century medicine was still essentially the art of healing (*ars medendi*), and empiricism played the major part both in diagnosis and in treatment. It is true that in the last decade of the nineteenth century important advances in bacteriology and biochemistry had been made and x rays had been discovered, but these had not yet significantly influenced the practice of medicine. The practitioner still wore his frockcoat and silk hat, too often symbols of his dogmatic pretensions. But there was then a much more intimate relationship between doctor and patient: the doctor was in truth a guide, philosopher, and friend, and he held a unique position of leadership, especially in the smaller communities. The era of specialization was still remote.

Man continued to be regarded as greater than the sum of his parts and as a member of a family and of society. The doctor entered his patients' homes and there saw the effects of overcrowding and ill-ventilation, the under-nutrition occasioned by poverty, the effects on family life of chronic illness in the wage-earner and the moral cankers of unemployment, and he realized from daily example the part which these play not only in causing disease but in preventing better standards of health. Moreover, even when he developed an interest in, and practised, a special branch of medicine he continued in general practice. At the beginning of this century there were in Liverpool no doctors, not even surgeons, who confined themselves solely to their specialty. In brief, the doctor's outlook at the birth of this century was, to

use Smuts's phrase, "holistic." Man was regarded by his doctor as a whole human being, in health and disease, and his reactions to and on his environment were not overlooked.

The March of Scientific Medicine

Then came the scientific age. Not that medicine had neglected science and the scientific method in earlier centuries. There can be few, if any, more striking examples of the application of scientific method than Harvey's demonstration of the circulation of the blood over three centuries ago. But as the twentieth century advanced, the torrent of scientific discovery rushed on so impetuously that it all but engulfed the humanism of medicine. In the pursuit of knowledge man was fragmented and his organs, tissues, cells, and secretions were subjected to intensive study. For science concerns itself with isolates and ponderables. It detaches from the tangled skein of nature a thread which it can examine and measure untrammelled. And its prophets have declared that "only when natural phenomena can be measured are they to be clearly apprehended."

If achievement be the measure of their contribution it is difficult to resist the claim of the basic sciences to the leading position in the vanguard of medical discovery. Almost before they have cooled, the newly forged weapons of science have been applied to the mysteries of medicine with almost unqualified success. The secrets of nutrition and of metabolic processes, and the agents which govern them, have been in large part revealed, so that there are now no medical obstacles to the proper feeding of the people. Hormones and vitamins have been isolated and synthesized; indeed, chemists have improved on Nature and given us agents which perform her work more simply and satisfactorily. Drugs have been produced in the laboratory which have all but replaced the old galenicals. The sciences of bacteriology and protozoology have concerned themselves not only with discovering the organismal causes of disease but with devising measures for increasing individual immunity to infectious diseases and of preventing their spread; and astounding success has attended their efforts both in temperate and in tropical climes. Bacteriologists have combined forces with the chemists and chemical manufacturers in producing remedies such as the newer antimalarials, sulphonamide drugs, and antibiotics which have revolutionized our treatment of established disease and altered its clinical pattern; they have been associated with engineers in improving methods of sanitation, ventilation, and food preservation.

Improvement in the techniques of radiology, especially the use of contrast media, has enabled us to visualize indirectly practically every crevice and cavity of the body and has advanced accuracy in diagnosis to an almost incredible degree. But it has in consequence whetted the appetites of those with the "penny-in-the-slot" type of mind who seek short cuts to diagnosis, and who have forgotten, if they ever appreciated, that "it takes a man and not simply a machine to understand a man." Radio-active isotopes promise to solve many fundamental problems in physiology, biochemistry, and pathology and to add to our diagnostic and therapeutic implements. Physics, by devising electrical instruments of such precision that infinitely small variations of voltage can be measured and recorded, has led to an extended knowledge of the mechanisms of the heart, of muscle, and of brain and nerve, and of disease of these organs which results in disturbances of normal function. At the beginning of the century the simple ophthalmoscope and laryngoscope, illuminated indirectly, represented the sole members of their class.

Ingenious arrangements of mirrors and lenses, and electrical illumination, have in the past few decades given us direct visual access to the bronchi, oesophagus, stomach, peritoneum, rectum, and bladder, and even to the spinal theca and ventricles of the brain, and have led to the construction of cameras which will make permanent records of our findings.

Indeed, practically no advance in the fundamental sciences is without its influence on medical research and practice. Surgery has not modified its aims. It still seeks to repair the injured, to reconstruct the deformed, and to ablate diseased structures, but its operations can with safety be bolder and more daring through advances in diagnostic accuracy, in the design of instruments, in anaesthesia, and in measures for combating infection, shock, and haemorrhage. The successful extension of surgery to the brain, the lungs, and the heart in the last forty years bears irrefutable testimony to the shortsightedness and ineptitude of some of the great surgeons of the past in their assertions that the craft of surgery had reached its zenith in their day.

The nineteenth century had been dominated by the morbid anatomists: the structure of the diseased body was the focal point of pathological research. Improvements in microscopy, in microtomes, and in the methods of staining tissues had led to valuable additions to our knowledge both of morbid histology and haematology. But this century, which has seen the mass invasion of medicine by physics, chemistry, biology, and even mathematics (for, despite its more than a century-old history, medical statistics has come into its own only in the past fifty years), has reorientated its lines of advance. Functional conceptions of disease have gradually replaced the structural. Tests have been devised which will assess the functional efficiency of practically all the organs and tissues of the body. Moreover, the emphasis on function has led to a wider appreciation of the influence of psychological factors in the genesis of somatic disease and has added strong support to the view that, whatever its philosophical status, dichotomy of body and mind in medicine is untenable.

Some Examples of Progress

It may be of interest to illustrate by detailed examples what half a century of scientific endeavour has contributed to human welfare. Since the beginning of the century the expectation of life at work has increased for the male by $18\frac{1}{2}$ years and for the female by over 20 years; the man of 40 to-day can expect to live another 31 years and the woman 35 years, as compared with $25\frac{1}{2}$ and $27\frac{1}{2}$ years a half-century ago. In 1901 in each thousand of the population there were only 47 persons over the age of 65; in 1947 there were 105. In the first five years of the century out of every thousand live births 138 infants died before reaching one year of age; in 1948 only 34 succumbed. The death rates per million of the population were reduced between 1898 and 1948 for typhoid fever from 182 to 1, for scarlet fever from 113 to 1, for whooping-cough from 124 to 17, and for diphtheria from 244 to 4. Indeed, the total deaths from zymotic disease in 1898 amongst the $31\frac{1}{2}$ million inhabitants of England and Wales were 86,755; in 1948, when the population had increased to $43\frac{1}{2}$ millions, the total deaths were 7,490 from the same causes. In the South African War the annual incidence of typhoid fever per thousand troops was 105, with a death rate of 40.6; in the first world war vaccine prophylaxis had reduced the incidence to 2.35 and the death rate to 0.139. The antibiotic chloramphenicol now gives promise of cure in the typhoid infections. In the early part of the 1914-18

war passive immunization by antitetanic serum diminished the incidence of tetanus, but in the early stages it was still 15 to 30 per thousand wounded; this dropped to less than 1 per thousand when the serum was generally used. In the second world war, however, with active immunization against tetanus the incidence dropped to about 1 in twenty thousand wounded. A striking example of profitable co-operation between the general practitioner and the preventive-medicine service is seen in Detroit, where in 1927, before immunization against diphtheria was introduced, 270 deaths occurred from the disease; in 1947, after immunization was general, there were but three deaths from diphtheria, and in the first six months of 1948 none. This is no isolated instance; analogous figures may be quoted for other localities.

Sulphonamides; Antibiotics; Insulin

As an example of the benefits which recent therapeutic advances bring to the individual patient rather than the community, let me quote first the effects of sulphonamides in pneumonia. Flippin *et al.* reported in 1943 that of 1,906 cases of pneumonia treated before sulphonamides were introduced the mortality was 40.1%; of 1,635 cases treated after the introduction of sulphonamides only 10.6% died. In another series recorded by Ungeleider and his colleagues in the same year the pneumonia mortality-rate for 1935 to 1937 before sulphonamides were used in treatment was 20.8%. In 1938 the case mortality was 79 per 100,000. In the period 1938 to 1942 the case mortality had been reduced by the use of sulphonamides to 3.9%, which represented for 1942 a death rate of 32 per 100,000. Thus in the United States alone 25,000 lives had been saved yearly by the sulphonamide drugs, and the reduction in the length of illness resulting from treatment had added at least a million days to the working capacity of the nation. In the American Civil War the death rate from meningococcal meningitis was estimated at about 90%; towards the latter part of the first world war, when antimeningococcal serum became generally available, the mortality was reduced to about 30%; in the second world war treatment with sulphonamides reduced the mortality to under 3%, and in many epidemics where efficient treatment was instituted early no life was lost. The importance of early diagnosis, which depends more on human skill and judgment than on laboratory tests, is strikingly demonstrated by the fact that in the first month of one outbreak 12.8% of the victims died, in the second month 7.3%, and in the later four months only 2.25%. Familiarity with the clinical manifestations of the disease had in the later period led to much earlier diagnosis.

The triumphs of penicillin and other antibiotics have been too recent in the memory to justify repetition, and as yet only the fringe of their potential usefulness appears to have been reached. If an example need be chosen to illustrate the benefits of chemotherapy few would be more informative than that of puerperal sepsis. Before the sulphonamide era the puerperal sepsis crude death rate was 154 per million; in 1939, when sulphonamides were in general use, this rate dropped to 63; in 1947, when penicillin was readily available, the rate had fallen to 16—a decrease of nearly 90% in less than fifteen years.

It is not only in the field of infectious disease that such victories have been gained. Before the days of liver therapy over 80% of the victims of pernicious anaemia died within twelve months of the recognition of their disease, and only occasionally did the patient live for more than three years. Yet in 1949 Wilkinson was able to record that, of 1,480 patients treated with liver since 1929, 1,179 were still alive;

of the 301 who died, 149 had lived more than five years, 51 more than 10 years, and 12 from 16 to 20 years. How often do we mark the *total* effect of the discovery of insulin on the welfare of the diabetic patient? Before 1922 the expectation of life of a diabetic child of 10 was about fifteen months; to-day it is over 45 years. Even at the age of 30 the diabetic before insulin could expect to live only about four to six years, and this with the strictest dietetic control; now his expectation of life is over 30 years, only a little short of the normal average. Translate these facts in the light of the known incidence of diabetes mellitus—in the United States alone over 700,000—and you will have some measure in terms of the saving of life brought about by one therapeutic agent.

These examples—and hundreds of others could be quoted—reveal how great are the reductions in the incidence, morbidity, and mortality from disease brought about in the past fifty years by measures directed towards the community as a whole, such as improvements in housing, ventilation, sanitation, or the supplies of pure water and uncontaminated food; by preventive measures applied to the individual, for example, immunization against diphtheria, smallpox, typhoid, and tetanus; by recent therapeutic agents and by improvements in personal hygiene. The cure of disease has always been more spectacular than its prevention, and public imagination has been fired by the triumphs of chemotherapy and modern surgery. The greater victories of preventive medicine have too often passed unheeded and unsung.

That Essential Humanity

What has been the effect of this almost whirlwind advance in our scientific knowledge of disease, its prevention and control? It has tended to change the orientation and ambit of medical research; it has modified the structure of medical practice and changed the face of disease; and it has provided many lessons for those entrusted with the training of the doctor. But before discussing these in their wider aspects let me reiterate, since it must pervade and transcend other considerations, that the achievements of science have too often led us to forget that essential humanity which is indispensable to the best practice of medicine. For medicine is not all science. There are indeed many medical problems which defy measurement. Human life is full of imponderables, for man is not a physical being only. He has emotions and appetites which cannot be measured though they profoundly influence his physical welfare. Bodily disturbances may be, and commonly are, the expression of his loves and hates, his passions and fears, his worries and anxieties: the thumping heart, the cold sweat, the weak and tremulous knees of fright are but simple examples of this unity of body and mind.

The greatest danger to which medicine in the scientific era has been exposed is that of overlooking that men, both patient and doctor, are sentient social beings, and of forgetting that, however sensitive and specific our laboratory tests and however elaborate and complicated our instrumental methods of investigation may be, they are not ends in themselves. When Moynihan declared that "we have made surgery safe for the patient; we must make the patient safe for the surgery," he little thought that the ensuing few years would bring the achievement so close to his goal. Yet I venture to suggest that these great advances in surgical craftsmanship and technical skills, and of measures to control infection, shock, and haemorrhage, will avail but little if they obscure the need to foster sympathy and kindness, without which no surgeon is safe for

the patient. Recent years have given the doctor increasingly more potent weapons of diagnosis and treatment; but it is by the understanding and wisdom with which he uses them that he will be judged.

The poet has written:

"True it is Nature hides,
Her treasures less and less; Man now presides,
In power, where once he trembled in his weakness;
Science advances with gigantic strides."

Yet we must not neglect Wordsworth's added caveat:

"But are we aught enriched in love and meekness?"

Medical Education

Medical research, practice, and education are closely interrelated. Indeed, over a wide territory they overlap, but I propose to discuss medical education first because I believe that in the long run it is standards of medical education which determine standards of practice. Buildings and instruments are indispensable, but they do not create a health service. In the practice of medicine men count more than materials. The Association has devoted both time and energy to the problem of medical education. As chairman of both the committees charged with the tasks of reviewing medical education in the light of modern requirements, and in particular of the needs of the general practitioner, you will, I trust, forgive me if I devote a little time to these topics. It is not always appreciated that the statutory aim of undergraduate medical education remains that of 1886, when the Medical Act provided that, for registration as a legally qualified practitioner, candidates shall show a standard of efficiency at their final examination which shall "be such as sufficiently to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery." This year may well see an additional requirement—a period of residence in hospital in a responsible appointment before registration is granted.

A careful study of the detailed curricula of our medical schools shows that, despite the vast corpus of knowledge and the consequent changes in the scope and emphasis of medical practice, the goal at which their undergraduate course aims is that on its completion the student shall be fitted to begin independent general practice. The B.M.A. Committee on the Training of a Doctor took a different view, which they asserted was dictated by the inexorable circumstance of the rate and extent of advancing medical knowledge. The undergraduate curriculum, they held, cannot now embrace even a tithe of the theory and practice of medicine. Its aim should be limited to laying foundations; it should be concerned, not with presenting masses of facts, but with indicating the scope, potentialities, duties, and responsibilities of medicine, both curative and preventive. It should illustrate those basic principles which are indispensable to all forms of medical practice by apt and sapient examples which will implant an appreciation of the methods of medical practice and research. It is not concerned with minutiae. The student is to be trained in reading the map of medicine, but the scale should be three miles and not three yards to the inch. The details must be left to special postgraduate study, and in this category, as our later report emphasized, general practice takes its place among the other specialties.

Basic Principles

It may well appear paradoxical that expanding knowledge should have affected medical education adversely. The explanation is to be found in the inevitable specializa-

tion which followed. The various subjects of the curriculum have developed as autonomous independent compartments of knowledge; yet for medical education they must be viewed primarily as different facets of the same subject. We have failed to secure coherence, continuity, and interdependence in our teaching. New developments and techniques in radiology, psychiatry, orthopaedic surgery, and social medicine, for example, have been forcibly fitted into, rather than integrated with, the existing curriculum. Snippets of allegedly necessary information have been added to an already congested syllabus, so that too often it justifies the taunt with which Cromwell castigated the laws of England: "A tortuous and ungodly jumble." And, perhaps most serious of all, narrower and more rigid specialization in practice has led to the evils which cannot be dissociated from increasing compartmentalism in teaching. Textbooks are rarely imbued with a general philosophy of medicine; they have become accretions of monographs by different authors into which only a stern and exacting editor can instil some semblance of unity of purpose. Too often books and courses of study are things of "shreds and patches" instead of being tapestries of clearly evident and purposive design.

Again, the population of our teaching hospitals reflects in increasing degree the rarer maladies. The interests of our consultants are becoming more and more confined, so that in many teaching hospitals whole wards are occupied by patients all of whom are suffering from the same type of disease. We may well have to ask ourselves in the near future if the narrow specialization in our teaching hospitals which results in this segregation of groups of disease is in the best interests of basic medical education, whatever other advantages it may carry. Some have urged that the student will gain most by pursuing intensively one special branch. This view is wholly indefensible. Its dangers for all learning have been denuded by many scholars. Asquith, in his Rectorial Address delivered before the University of Glasgow in 1907, referring to the study of history, speaks of both teacher and student as being "peculiarly exposed to the risks of specialism, and of the morbid excesses to which specialism leads—pedantry, want of perspective, over-emphasis of the unimportant, the passionate pursuit of small game which is not worth the efforts of the chase." And with peculiar appropriateness to medicine he said, "The mind of the . . . student is indeed in danger . . . of becoming a kind of pantechnicon, in which every sort of furniture is heaped and packed together, instead of being a habitable home where things useful and beautiful are arranged in their proper places, and in due relation to their special purposes."

Man is neither a pantechnicon nor a robot. His various organs and tissues, and his body and mind, are so closely knit in maintaining or restoring health that our medical teaching must be pervaded by a "synoptic" view. Unless basic medical training be directed to the study of the *whole* man, in relation to his external and internal environments, it will be misconceived in aim, in structure, and in balance. Theory and practice must be closely integrated; for without theory practice lacks a guiding hand, and without practice theory wilts. Nor must we forget, as Sir Richard Livingstone wrote, that "the prior task of education is to inspire and to give a sense of values and the power of distinguishing in life, as in lesser things, what is first-rate from what is not"; and, "the test of a successful education is not the amount of knowledge that a pupil takes away from school, but his appetite to know and his capacity to learn."

These were the liberal principles which my committee believed should guide the basic vocational training in medicine, and by detailed example ways were suggested by which they might be translated into practice. These were not intended to be rigid syllabuses, for we were by long experience alive to the dangers of attempting to stereotype methods of teaching or the content of the curriculum, of reducing medical education to a formula. Students vary in their capacity to learn and to be taught; they are as little suited to a uniform regimen of study as to uniformity of diet, exercise, or hobbies. Hence the need for individual tuition. No one should pretend that they can all be treated by the same method, unless he be a quack, or possessed of that demon of planning and uniformity which used to make the Minister of Education across the Channel reflect with complacent satisfaction that, at a particular minute of a particular hour of a particular day in the year, every schoolboy in every school of France was being informed of the same fact in Roman history.

Training after Graduation

The report on "General Practice and the Training of the General Practitioner" carried to its logical conclusion the recommendation of the earlier committee and emphasized the need for special training after graduation if the general practitioner was to fulfil his purpose and achieve his proper status in the field of medical practice. The general practitioner has with good reason long become increasingly suspicious and indeed resentful of the lip-service paid to him in such phrases as the "backbone of the profession," the "front line of defence," and the "flower of our profession." He must have been heartened at the reception which this report had from the national press, which appreciated, in the words of *The Times* leader, that the proposals it put forward would not only go far to bring about the betterment of the practitioner but would also make for economy, since an "efficient front-line service would relieve the more expensive services in the rear." The committee was "not unaware of the idealistic trends of its recommendations and of the criticisms to which it may in consequence be exposed." But ideals often create machinery, and machinery without ideals rusts into decay. Until we have so reformed the conditions of general practice that students of merit will wish to enter it we shall not have achieved our objective.

I need say but little of medical research. I have already pointed to its major achievements, but on the human side I welcome most cordially the signs which indicate a bridging of that breach between laboratory and clinical research which developed in the earlier part of our century and gradually widened. It stemmed from the differing public prestige and the lower material rewards of the laboratory worker. In the past few years the economic injustices have been partly redressed and there has been a wider realization of the lesson of history, that practically all research fruitful for medicine has begun by clinical observation and has achieved its ultimate successes by the combined efforts of laboratory worker and clinician. The whole story of the hormones, from the description of Addison's disease to the discovery of cortisone, is an arresting illustration of their fertile partnership.

Social Responsibilities

The second of the two influences which have fashioned the medicine of the last half-century is the evolution of our attitude as physicians to our social responsibilities. There has been increasing recognition that the perceptions

and tasks of the physician of the twentieth century must be shaped by his function as a citizen, and that we must look upon the society in which we live, and our responsibilities to it, as parallel to our responsibilities to our individual patients. This is no new doctrine. It was towards the latter part of the eighteenth and the early part of the nineteenth century that humanitarian trends in their wider social implications began to influence the practice of medicine. Doctors and clergy in their everyday work were brought face to face with the sufferings of the poor, and it was natural that they should take a leading part in ameliorative movements. But, whilst the parson was more concerned with spiritual and moral welfare, the doctor sought to improve the physical amenities of the people, for he clearly apprehended the relationship between poverty and health and disease. Hence it was that in the forefront of social reform in the nineteenth century which led to the social security of the twentieth were two distinguished medical men.

One of these, Sir John Simon, wrote in his *English Sanitary Institutions*, "If given wages will not purchase such food and lodgement as were necessary for health, the ratepayers, who sooner or later have to doctor or perhaps bury the dead labourer when starvation or filth have laid him low, are in effect paying the too late arrears of wages which must have hindered the suffering and sorrows." The other, Dr. Southwood Smith, indignant at the continued indifference of Parliament to the conditions of the working classes, wrote over a century ago: "For every one of the lives of these 15,000 persons who have thus perished during the last quarter, and who might have been saved . . . those are responsible whose proper office it is to interfere and endeavour to stay the calamity—who have the power to save, but who will not use it. But their apathy is an additional reason why you should rouse yourselves. Let a voice come from your streets, lanes, alleys, that shall startle the ear of the public and command the attention of the legislature."

Is it then surprising that, since the practice of medicine reflects the social philosophy of its time, there should have grown with the years an increasing demand for social security which culminated in that National Health Service Act which will influence, for good or evil, all our lives, be we doctors or patients? I have already promised to refrain from provocative reference, but I would venture to make one or two comments outside politics. A national health service must take due cognizance of the nation's resources both in skilled workers and in materials; it therefore behoves not only the doctors to play their part but also the public, who must be educated either by persuasion or by retribution not to make unnecessary demands on doctors or on hospital services. In such education, however, we must avoid producing a nation of hypochondriacs, for that will aggravate the situation rather than remedy it. I would plead also that there should be within the service the opportunity for experiment. There is a real, and I believe increasing, danger of rigidity and inflexibility; indeed, we run the risk, despite varying needs and widening horizons in medicine, that our hospital system will fail to reflect the changes. And I need hardly re-emphasize that prevention is better than cure, and that a service which maintains health is to be preferred to a service which promotes doctoring.

I am not one who subscribes to the view that in the changing conditions of medical practice doctors will lose pride in their vocation and faith in their future. Whatever career in medicine we are destined to follow, as practitioners, teachers, or research workers, the same motives

which guided our predecessors will yet guide us, for our purpose is to help our fellow man, and the fulfilment of that purpose should be our most satisfying reward. Research workers will still find intellectual relish in gratifying their innate and compelling curiosity, and not a few will advance the frontiers of medicine. Many will leave behind something of permanent value for suffering mankind.

"Here on the level sand,
Between the sea and land,
What shall I build or write
Against the fall of night?
Tell us of runes to grave
That hold the bursting wave,
Or bastions to design
For longer date than mine."

The teacher of medicine may be fortunate enough to see the fruits of his labours, but the most precious are those which he may never see, for they are hidden in time and in the remoter corners of the earth. The practitioner, despite the overwhelming burden which is imposed by conditions which leave him so often frustrated, can still be the leader and the friend of his fellow citizens. Changing conditions provide not only a challenge but also an opportunity. Let us grasp it firmly, for through it we may more richly and abundantly keep faith with our ideals.

The Association's Work

In all the work which I have touched upon the B.M.A. has played a noble part. It has necessarily been concerned with medical politics, but, since the events of recent years have unduly illuminated in the public mind this aspect of its tasks, let me adjust the balance. That it has satisfied the needs of its members in bulk, if not always individually, is shown by the fact that in 1900 its membership was 18,500 at one guinea subscription, whilst in 1950 it has 60,000 members at four guineas subscription. During the half-century it has co-operated with practically every Government department, giving advice when sought and occasionally offering unsolicited advice which has not always proved welcome. It has had fruitful and friendly associations with the Trades Union Congress, with local authorities, and with its sister professions of law, nursing, veterinary science, and pharmacy. It has created a library of 50,000 volumes which, in co-operation with the Royal Society of Medicine, has provided all the needs of the inquiring practitioner. It publishes a weekly medical journal which has deservedly a world-wide circulation, and in recent years it has been responsible for the production of special journals which are the envy of other countries. Moreover, no other medical association or society in this country has combined with its annual meetings four days of concentrated scientific work covering all branches of medicine, where a galaxy of our brightest medical stars strive with current medical problems.

The Association has issued reports on medical topics which have profoundly affected medical practice. Among them may be mentioned those on ophthalmia neonatorum and the early recognition of uterine cancer; on puerperal morbidity and mortality, and on the medical aspects of abortion; on the treatment of fractures and rehabilitation. It early influenced, in the light of modern developments, hospital policy and the problem of the out-patient, and long before there was wide recognition of the need it had proposed a general medical service for the nation and a national maternity service. The many victories over disease, and the preventive measures which have led to the

rapid increase of the aged in our population, led to a report on the Care of the Elderly and Infirm which has formed the basis of all subsequent recommendations. Its reports on psychiatry and the law, on nutrition, and on medical ethics deserve approbation, and its exposures of "secret remedies" and the unfounded claims of the unqualified practitioner have had beneficent national repercussions. The Association, too, has by its scholarships and prizes encouraged the early work of those who have later carved a permanent niche in the medical Hall of Fame. Among these (and it would be invidious to mention the more recent) are to be found the names of Watson Cheyne, Priestley, Waller, Starling, Leathes, Elliot Smith, Major Greenwood, Charles Bolton, and A. J. Clark.

There is one other characteristic of the Association which has impressed me deeply in the years that have just passed, years fraught with difficulties. For, when decisions of great moment have to be taken, differences of viewpoint and conflicting policies must inevitably emerge, and rightly so; for history reveals that unanimity of opinion in an assembly is the forerunner of its decline. But in the B.M.A. these differences can be expressed without the fear that they will be translated in terms of personal malice and venom; and so we remain staunch and sincere friends throughout the vicissitudes of our differing medico-political outlooks.

"Combined Operations"

And so it should be. Our design is not victory in the debating chamber, but the conquest of disease. If we aim at lessening physical distress in others we should refrain from inflicting mental distress by the harsh and unguarded word or, worse, by intrigue and malice. For we are still far from many of our goals. We have not yet conquered some of our most prevalent ills, such as influenza and the common cold; and our ageing population has thrown into relief many of our failures, for the operative secrets of cancer and arteriosclerosis—now the captains of the men of death—still elude us. Many of the disabling diseases, too, such as peptic ulcer, rheumatism, and the visceral neuroses, await a satisfactory therapy. But advances will and must continue. No one can predict, with confidence, the limits of future achievement in curative, preventive, and social medicine and social welfare if all branches of medicine work in harmony among themselves and collaborate with colleagues in other scientific fields; for "combined operations" may well provide the answer to many of our problems—scientific, social, and humanitarian. The record of medicine in the first half of the twentieth century has been fortunate beyond belief; a greater duty remains, and it is shared by every doctor—to see that the future is not unworthy of the past. For, as Walt Whitman wrote in the copy of *Leaves of Grass* which he sent to Emerson, "We have not come through centuries, to halt in this land of ours."

Conclusion

May I in concluding this address express again my warm appreciation of the honour you have done me in inviting me as President to address you. I would remind you of the words used to describe his audience on the occasion of the inaugural lecture some sixteen years ago, by the then Professor of Poetry in the University of Oxford. He described that audience as "the most accomplished and exacting in the world, which no excellence can surprise, for which nothing is too good or possibly good enough." I am convinced that my audience does not fall short of that standard. I have therefore prayed that your tolerance might equal your accomplishments.