literature. He was in fact a scholar as well as a discoverer, and his papers were not only convincing but written in a fine clear simple style of English. But when he stood before a class of students his voice was low, his manner shy and diffident, and his command of words poor. Yet we heard him with attention and deep respect, for we were in the presence of a recognized master of his subject. His reputation threw a kind of glow round about him, not visible, but felt as inspiration. And inspiration is mentioned by Liebow in his address as one of the greatest gifts of a teacher to his students. Other virtues that came out of Dr. Thomson in his teaching were his modesty and humility. These things were apparent, and when joined with high reputation were discerned at once by his audience and had a powerful effect. The case of Dr. Thomson could easily be paralleled elsewhere. For example, in physiology, Sir Charles Sherrington was a great scholar and a master of his subject, but is said to have lagged behind as a teacher of students.

The three examples that have been given were of clinical teachers in the Edinburgh Medical School fifty years ago. From them we cannot judge of the strength or weakness of the school as a whole at that time, nor can we make any comparison with the state of teaching in Edinburgh to-day. But they illustrate methods and principles of teaching which are valid at any time for any school, and which must be taken into account when reconsidering the medical curriculum to-day.

The College of General Practitioners

The College of General Practitioners, already created as a corporation, has now secured a site for building at Lincoln's Inn Fields. This is announced in a letter to the *British Medical Journal* by its President, Dr. W. N. Pickles (1956). This notice is relevant to the present discussion on medical education, and in conclusion I shall make some comments on its significance.

Would the following statements be accepted?

1. General practitioners are the main body of our medical system; more than that, they are its hinge and pivot, and determine the efficiency of the hospital and public health parts of the system.

2. The medical experience of general practitioners is wider and more complete than that of hospital or public health doctors. This is seen in the greater number and the greater variety of diseases they deal with, and in the fact that they see these diseases (in most cases) from the beginning, through their course, and to their end in recovery or death. A well-educated G.P. who has become versed in his work is the most experienced and valuable of all kinds of doctor. He is our master clinician. Even though he delegates some of the difficult technical jobs of surgery, midwifery, and practice of physic to hospital specialists, these are only temporary, although crucial phases, and they all begin with him, and in many cases come back into his hands.

3. The public and the press, stunned with the marvellous work of the hospitals, tend to belittle the humdrum work of general practitioners and to put them into the second line of the medical army; in truth they are the first line and are indispensable.

4. The general practitioners themselves realize that much of their work falls short of what it might be. In the hospitals as students they saw teams of assistants, and nurses, and laboratory technicians, and records, and all the apparatus of diagnosis. In practice only a bare minimum of these aids is available, and after a year or two the doctor, man or woman, comes to accept much of his work as unfinished and incomplete. This state of affairs will surely be the concern of the new College.

5. Lastly, there is medical education, which has been discussed here. This has been thrashed out for years by medical faculties, colleges of consultants, the Ministry of Health, and *ad hoc* committees. And all this indicates the importance of the subject which deeply concerns the public weal. All these learned bodies agree that medical education

is imperfect, but do not agree about how to put it right. The College of General Practitioners will know better and more closely than any other college what is lacking and faulty in the young men and women now being turned out into general practice by the medical schools. In due course we shall have a report on medical education by a committee of the College which will be read with respect and great interest by the whole medical profession.

The College of General Practitioners is the last and the youngest of the medical colleges; it may become, like the mustard tree, the greatest of them all. It will be the guardian of the interests and dignities of the largest body of our medical men and women, all engaged in the full range of medical work. Better training and better conditions of work for general practitioners can bring great benefits to our society.

REFERENCES

- Liebow, A. A. (1956). *British Medical Journal*, 2, 305.
 Pickering, G. W. (1956). *Ibid.*, 2, 113.
 Pickles, W. N. (1956). *Ibid.*, 2, 174.
 Walsh, Sir Francis (1956). *Ibid.*, 1, 1441.

MEDICINE'S WIDENING HORIZONS*

BY

R. W. LUXTON, M.D., B.Sc., F.R.C.P.

Consultant Physician, Crumpsall Hospital and Holt Radium Institute, Manchester

The figurative meaning of the word "horizon" is given in the Oxford Dictionary as "the limit of mental perception, interest, or experience." I am relating the phrase "widening horizons" to certain aspects of our professional life which should and will expand.

The Horizon of the Science of Medicine

The past hundred years have seen a remarkable development in the science of medicine. In 1856 bacteria had not been isolated and little was known of the cause or prevention of infection. Ether and chloroform anaesthesia had existed for about ten years, but Lister had not even begun the antiseptic surgery which preceded aseptic surgery. Abdominal operations were rare before 1858, when Spencer Wells, of London, began such work with some success. Most compound fractures were treated by amputation, otherwise the patient usually died of sepsis; even with amputation the mortality was nearly 50%. X rays were still undiscovered.

In contrast, during the past twenty years our scientific horizon has extended to include major therapeutic advances such as the antibiotics and the sulphonamides, while anaesthesia has forgotten its "rag-and-bottle" days and is now a constant source of joy for the anaesthetist and the surgeon, though the patient's joy still has reservations. The progress in antibiotics and anaesthesia has removed the last restraints on the surgeons, who now think little of making a direct assault on the arch of the aorta, of attacking the valves of the heart, of amputating a frontal lobe, or of removing most of the viscera between the oesophageal hiatus and the levator ani. The radiotherapists spray their rays with increasing vigour and abandon their machines and their statistics becoming always more impressive and less understandable. The radioactive isotopes have opened up new fields whose limits are beyond the horizon. Clinical biochemistry has become almost an ideology, and the day of milli-equivalents is at high noon. In future no self-respecting professor of medicine will allow the time-honoured phrase "At rest" to be chiselled on his tombstone—he will insist on some such statement as "In osmotic equilibrium."

There is no doubt that the scientific horizon will continue to widen. It is possible that just beyond the present horizon

*B.M.A. Lecture given before the Oxford University Medical Society, March, 1956.

is the cure for cancer, the prevention of coronary disease, the biochemical answer to schizophrenia—who knows?

This bright sky is not without its cloud. In my view, the advance in techniques for studying patients has resulted in a loss of clinical acumen. The loss is due to two factors—the increase of specialization in doctors, and the shift of interest from the patient as a *person* to the patient as a container for electrolytes or of electrical potentials recordable by electrocardiograph and electroencephalograph. Specialization has come to stay and even to intensify—a cardiologist remarked that it is now difficult for one man to understand electrocardiography and cardiology at the same time! But specialization has serious dangers which hitherto have not been appreciated fully. The vast majority of specialists—cardiologists, neurologists, dermatologists, and the rest—see only a limited aspect of the patient, and their judgment is biased and liable to serious error. I believe, therefore, that the next few years will see in the clinical statesmen of our profession a restoration of interest in the patient as a whole. Such men may cultivate the wide perspective and choose the laborious study which creates the good general physician or diagnostician, in preference to the easier though attractive paths of specialization.

Clinical Approach

It may not be out of place to mention here a few points which make for a sound clinical approach.

1. "Listen to the history—the patient is telling you the diagnosis." History-taking is an art almost as delicate as angling for trout with the dry fly (and almost as important!).
2. Examine the whole patient. It is never enough to examine only or mainly the organ or system which may be the source of complaint. As doctors we must be experts in observation, not simply of physical but also of psychological signs. Sherlock Holmes may be a fanciful figure, yet every good diagnostician has a touch of Sherlock's genius.
3. Become adept with and cherish the clinical instruments which will be your precious lifelong friends—stethoscope, percussion hammer, ophthalmoscope, and that small but efficient kit you will carry in the little black bag. Choose the type of stethoscope which best suits *you*—people differ—but remember that the most important thing about a stethoscope is what lies between the two earpieces when in use.
4. As you examine the patient, he is likewise assessing you. You may shatter his confidence in your sensitiveness by a careless examination of the abdomen. Therefore never examine the abdomen with a hand that is cold or which carries long fingernails whose razor edges can evoke sharp discomfort, and always start the palpation at a place you know is not tender. Be very gentle—you can feel far more when you have gained the patient's abdominal confidence. By gentle palpation a really good doctor can perform what is almost a bloodless bedside laparotomy. Such an examination may be therapeutic as well as diagnostic, for it is psychologically no less than literally a "laying on of hands."

Sir Luke Fildes painted a picture which he called "The Doctor." It depicts a bearded, kindly, wise middle-aged physician sitting, chin in hand, by the bedside of a sick child. The setting is a room in a cottage, and the doctor is watching his patient and pondering the best line of action. The picture illustrates something we must never forget. The clinician at the bedside is the only link between the human being who is ill and the vast knowledge and resources available for a cure, resources accumulated over the years by human intellect, energy, and invention. Although he himself may not possess the knowledge, he has *access* to both knowledge and facilities, perhaps through a timely consultation or by sending the patient to some hospital centre. The doctor's skill, carefulness, and care make possible the contact vital for the patient's recovery.

Medical science and the clinical art are both essential for right diagnosis and treatment. They are not matters of the intellect alone. The clinician's soundest judgment comes from a fine integration of his cerebral cortex with his hypothalamus. What is happening in your minds and emotions during the precious years in which you learn the basic sciences of medicine and proceed to your clinical studies may make, for many people, later on, the difference between

invalidism and abounding health, or even between life and death. Many a man has died whispering words of blessing on the doctor whose ignorance or carelessness has killed him. As I myself have sometimes known, some day each one of you may know you are a guilty man.

The Horizon of the Science of Man

I do not propose to expand on this fascinating subject, which was outlined by Alexis Carrel, and must refer you to his book *Man, the Unknown*, first published in 1935. Very briefly, his thesis is as follows:

The scientific study of material objects is relatively easy. It is fascinating to the human mind because here we can *isolate* problems and work them out neatly. Thus sciences such as chemistry, physics, metallurgy, astronomy, and mechanics have made great progress. The science of living beings, and especially of man, is much more difficult. In analysing ourselves we are obliged to use many techniques and several sciences. Naturally all these sciences arrive at a different conception of their common object. Anatomy, biochemistry, psychology, history, sociology, political economy, and the rest, added together still leave man the almost unknown. He is at the same time the corpse dissected by the anatomist, the consciousness observed by the psychologist, the amazing community of cells and fluids studied by the physiologist. He is the economic man. He is also the poet, the hero, and the saint. Immense regions of our inner world are still unknown. The science of man is the most difficult of all the sciences, and medicine will have great contributions to make thereto if, as doctors, we take off our blinkers and study *man* and not merely his diseases.

The Horizon of Spiritual Healing

A century ago the medical profession regarded human beings as physical mechanisms combined with unpredictable faculties of thought and feeling of dubious importance to health. Freud, Adler, and Jung first brought the unconscious mind under scientific observation. They broadened the concept of man to that of a physical body plus a mind deeply significant to health. To-day all thoughtful opinion in the medical profession regards man as a "body-mind," and it is not easy to set a limit to the effects, for good or ill, which the mind may have upon the body. Latterly the influence of the psyche on the soma has been widely studied, and the "stress disorders" are much discussed even by laymen. We doctors may be up to date with the *British Medical Journal* and the *Lancet*, but we are apt to be caught out by our patients if we are one behind with the *Readers' Digest*.

A few years ago the physicists explained everything confidently in terms of matter. Their researches have led them into utterly unexpected quarters, and to-day the physicist is almost a metaphysicist. In a similar way the medical profession's conception of man seems to be altering. Some of us have come to regard man as primarily a spiritual being in a *setting* of body and mind. A good deal depends on your philosophy of life. A materialist believes that man is only an animal and that if his body keeps fit and his mind keeps sane he is a whole and healthy animal—but still an animal, which is blotted out by death. Spiritually minded people have an idea that every man has a fragment of God in him and that we are set in this astonishing world for a short period for a purpose. Real health or "wholeness" is thus not merely a matter of a healthy body and a sane mind. In addition there must be a victorious spirit. Just as there are diseases of the body and diseases of the mind, so there are diseases of the spirit, such as pride, resentment, fearfulness, self-pity, greed, and self-indulgence. Disorders of the spirit may produce serious changes in both mind and body, and the cure of spiritual disorders may restore bodily and mental health. Scientific proof is not easy, because science as we know it deals only with things it can measure, and we have no standards for measuring resentment, self-pity, pride, or fearfulness. The curriculum has not caught up with this difficult subject, of which it contains no mention. However, psychosomatic medicine, unheard of a few years ago, now has its own textbooks, and a few years hence there may be standard works on the psychological and somatic disorders resulting from self-pity, resentment, or moral defeat.

One point I must stress. You will never be a good doctor if you are spiritually blind. So many of the illnesses for which patients will come to you—presenting with physical and psychological symptoms of all types—stem from spiritual conflict or failure. Thus the diagnosis of spiritual disorders is almost as important to the doctor as it is to the priest. Further, among lay people to-day there is a growing interest in spiritual healing. Many of those who write about, preach about, and practise spiritual healing are well-intentioned but ignorant of pathology and the science of medicine. Medicine will need to bring this subject within its horizons; indeed, there already exists an accredited organization, with official B.M.A. representation, whose purpose is to establish the basis of co-operation between the medical profession and those whose approach to the creation of “wholeness” is from the spiritual side.

The Horizon of Personal Character

This horizon, of great importance to the future of medicine, runs through the life of every doctor and every medical student. Have you thought how dangerous it may be to give a man the degree of Bachelor of Medicine and put his name on the *Medical Register*? Most of you seem prepared to accept the risk. Qualification in medicine depends largely on the amount of knowledge you can absorb for certain times of stress known as examinations. Knowledge is power, and it is no more dangerous to give a loaded revolver to a child or to an adult with a criminal mind than to give a medical degree to a man whose character is fundamentally unsound. Plato knew this. In olden days many disciplines had to be undergone in reference to character before a man was thought fit to be taught knowledge; but to-day, in our sloppy democratic way, we have made knowledge free for all. Only in indirect ways does the medical training test a man as distinct from his facility with milli-equivalents or a percussion hammer. No doubt if there were tests of character as well as of knowledge many of us who are your seniors and tutors might now be mortuary porters; we might, of course, have done quite well in politics. The man in the street has been remarkably ready to trust the man on the *Medical Register*—except in recent years, when there has been a tendency to take legal pot-shots at the doctor when opportunity offers.

The daily life of human beings has been described as on two planes—horizontal and vertical. On the horizontal plane is the succession of events which form our daily routine, as if, walking through the day, the regular duties are the road and our interests are the scenery. For some of you I suppose this means leaping out of bed into a cold bath at 5.30 a.m., cleaning your teeth, putting in a couple of hours at physiological chemistry to warm up your intellectual circulation before breakfast, attending dull lectures by duller lecturers, eating a square meal three times a day, cleaning your teeth again, and so to bed. That is the horizontal plane of trivial things. It does not seem to cater for the great, the tragic aspects of human life. The vertical plane is the plane of values. We understand why we are dropped on to the horizontal plane of trivial daily affairs only when we relate the horizontal plane to the vertical and see our life against the background of values such as honesty, great-heartedness, love, courage, purity, hope, and faith. The more a man lives at the intersection of his horizontal plane of the trivial and the vertical plane of lasting values, the greater and deeper does his character become. A doctor has every opportunity to achieve spiritual depth and character, for his horizontal plane of daily routine is always in contact with the great and tragic events in the lives of his patients.

The Doctor's Primary Function is to Set People Free

Having considered four of the horizons you may expect to widen out in your lifetime, you may reasonably ask, What does this mean to-day for the doctor of to-morrow?

1. It means that you apply yourselves to the sciences which are the basis of medicine, and to the studies which build up your clinical knowledge and acumen. This is your *technical* education. Without it you are as dangerous as a ship's captain untrained in navigation and in the other sciences of the seafarer.

2. You must avoid becoming lop-sided individualists—of such there are far too many in medicine already. The “new medicine” is based on team-work, which corrects both individualism and lop-sidedness. However, there is still ample room for personal genius, for new ideas usually come from a person inspired by a team—or from a team inspired by a person.

3. It means that you cultivate an interest in the wider aspects of medicine. It is not enough to be an astute clinician. As doctors we can make a unique contribution to the future of mankind, not merely to the future of individual men. The science of man is increasingly needed, for in our lifetime the world has been shrunk by wireless telegraphy and jet propulsion. Where twenty-five years ago doctors thought in terms of municipal health, to-day we must think in terms of world health—hence the growing importance of the World Health Organization. Again, we must be intelligent about medical politics. A doctor's primary responsibility is to his *patient*, and we should be alert to political moves which may rob us of that basic freedom.

4. It means that you must recognize and meet the real need of humanity. The doctor's primary function is to set people free—it is our greatest achievement and a wonderful privilege. What is disease but bondage?—bondage to arthritic joints, to paralysed limbs, to the limitations set by coronary disease or a malignant growth. Similarly psychological disease is bondage—for example, the bondage to severe depression or to a fixed delusion. Now we are able to set people free from certain physical and mental diseases mainly when we uncover the scientific truth about these disorders. The truth makes men free. But there is another kind of truth which is just as necessary if man is to be free—spiritual truth—the truth which liberates a man from the diseases of the spirit which I have mentioned—pride, fearfulness, self-pity, self-indulgence, resentment. The truth of the intellect (scientific truth) and the truth of the spirit are *both* aspects of the truth which makes men free. Scientific exploration discovers God's ideas about the interrelationship of material things, which we formulate as scientific law. Spiritual exploration discovers God's ideas about the interrelationships of spiritual beings—God and man. There are laws of the spirit just as absolute as the laws of science. Humanity must have truth to set it free—as individuals, as nations, as a world of nations.

One of our major problems to-day is that our discovery of scientific truth has far outstripped our apprehension of spiritual truth. It is relatively easy for us to uncover scientific truths—it requires a certain exercise of intellect. But the desperate need of the world to-day is not for more intellect, more knowledge. The intellect is a good lieutenant but a bad captain. What is necessary if men are to be set free, as individuals and as nations, is a new grasp of spiritual truth, a spiritual renaissance, a new birth of spiritual power in every aspect of human thought and action. There is a burning need for dedicated men—men whose sole objective in life is to discover the truth, scientific and spiritual, which makes men free. In this respect we doctors have an unrivalled opportunity. The challenge to us is to self-dedication. We may, of course, remain humdrum and stick to our pills and penicillin. If so, we are “dabbling in the shallows when we could be swimming in the ocean.” Medicine must have its spiritual pioneers no less than its scientific pioneers.

Points for Pioneers

To you, at present immersed in technical scientific studies but destined to explore these widening horizons of medicine, I would suggest three things.

1. All great literature, poetry, art, music, enlarges the human spirit and helps to build character—that is *why* it is great. Whenever a Beethoven writes a symphony he is expressing the experience of his spirit in a language whose technique he has mastered. We, without the technique, may catch his message and be enriched and ennobled by it.

2. The wisdom of saints and seers is freely available. There is a spiritual library worthy of study as careful and exact as any we give to our professional textbooks. The library includes authors such as Thomas à Kempis, Henry Drummond, John Bunyan, Professor B. H. Streeter, and the recent writings of J. B. Phillips. It includes that portable library the Bible—Phillips's translations of certain books are most refreshing. Mark Twain complained that the Bible upset him—not the things therein which he didn't understand, but the things he *did* understand. But don't let Mr. Twain put you off.

3. The art of making men "whole" demands a shrewd combination of activism with quietism. To understand man's mind and spirit (including his own) the doctor must practise quietism; to understand and heal man's body he must be activist. We need therefore to meditate daily on great truths. In meditation the horizontal plane of routine meets the vertical plane of eternal values. Such meditation, best undertaken in the morning, gives detachment, perspective, insight, and direction. It is the critical act which makes every day significant. It is a time which saves time, for it clarifies what is important. It adds to the day both direction

and inspiration. As a daily habit it transforms the way you live, your ambitions, your interests, your methods. It emphasizes that the real purpose of life is spiritual development, since for every man physical death is certain. Practised by the seers for centuries, it is powerful to-day in the lives of those who learn to explore its secrets and who accept its discipline. It is essential now as never before, for it is potent in the upward struggle of mankind. Apart from extremely busy periods the average doctor needs at least half an hour of such meditation daily; when exceptionally busy he requires longer.

Further, more than a personal religious faith is necessary. The atomic age is also the Ideological Age, and for the first time in history a highly organized materialistic ideology has captured the minds and wills of one-third of the whole human race, and is extending rapidly. Against so ominous a background a religious faith devoid of the plan and passion of an ideology looks like a personal luxury. Moreover, medicine itself is in dire need of a dynamic new philosophy fed by deep spiritual roots. It is possible that, hampered by its upbringing and agnosticism, the profession as a whole will be unable to rise to this fundamental challenge of our times. It may therefore fall to you to discover and apply the spiritual ideology which is the only possible answer to contemporary materialism in all its forms. Without that spiritual ideology man may disappear into the night of self-annihilation; with it he will move confidently forward into the light of day.

POSTGRADUATE MEDICAL EDUCATION IN PREPARATION FOR ENTRY INTO GENERAL PRACTICE*

BY

J. K. PATERSON, M.B., B.S.
Upton, Huntingdon

"The one essential, whether he be regimental medical officer or general practitioner, is that your doctor should be a man: and he may adorn his manhood with such elementary knowledge of medicine and surgery as he may pick up in five years, ten years, or a lifetime of study." This statement was made by a colonel of the Royal Artillery at the close of a lengthy discussion in a native hut, some five thousand feet up in the foothills of the Himalayas. The truth of his observation has been impressed on me time and again in the years that have passed; years which, for me, have been filled with a great variety of experience, and which have seen a very junior combatant officer become successively commando, medical student, father, houseman, and general practitioner. And at each stage of this metamorphosis it has become more apparent that the pre-eminent quality of the good general practitioner is that, being a man, he should adorn his manhood in the manner required by this rather unusual soldier.

A prerequisite to any intelligent discussion of postgraduate education for general practice is a clear picture of what constitutes the perfect general practitioner. Only with this in mind is it possible to appreciate the shortcomings of the newly qualified doctor and of the system which has nurtured him, and to formulate a plan to fashion the product of the undergraduate system for the Herculean task awaiting the doctor in general practice.

Attributes of the Perfect G.P.

Perhaps foremost amongst the attributes of the perfect general practitioner comes a sense of humour: the patient wants to consult a human being rather than an encyclo-

paedia, and in a sense of humour the doctor has at his elbow the most potent antidote to frustration, petty irritation, and anger. Next I would place courtesy. Patience, too, must be found a place, with tact and honesty, and a certain humbleness in the knowledge that no man can aspire to know the whole field of modern medicine. Adorning the man covers many and varied aspects, and the good general practitioner must have an up-to-date grasp of general medicine and surgery upon which to base his other knowledge and upon which to found his wisdom. In many districts he must also have a high degree of knowledge and skill in obstetrics, although there appears to be a trend towards the hospitals in this branch of medicine.

The general practitioner must know how to assess and treat the multitude of minor ailments he will see daily in his surgery, and about which he will find little information in textbooks, and he must be prepared to do rather more than "sort" his E.N.T. from his ophthalmic cases. He must be fully conversant with the infectious diseases, for on these alone can his reputation as a doctor depend, and he will find a knowledge of dermatology of the greatest help. Of much importance is his ability to deal with children, not only as possible pathological specimens, but as young human beings with a great capacity for fear, yet usually impressionable enough to win over to co-operation. Much has been written about the care of old people, but, whether or not it is wise to remove them from the general practitioner's care, there will long be a number of old folk to be cared for in general practice. The chronic rheumatic conditions also will demand much of the general practitioner, and, perhaps most tiring of all, he will have to deal with numerous cases of neurosis and tension states, and with the occasional certifiable patient. Then there are the inevitable deaths, and the problems of comfort and succour to the bereaved.

*Abridged version of the Claire Wand Fund Prize Essay.