Middle Articles

Medical Science, Society, and Human Values*

DOUGLAS HUBBLE,† M.D., F.R.C.P.

Brit. med. J., 1966, 1, 474-477

Medical science has advanced swiftly in our generation and the pace is accelerating. We had only just assimilated the isotopes when the chromosomes were upon us, and while we were catching up with the chromosomes the computers clamoured for our attention. A medical Rip van Winkle who now goes to sleep for a short ten years will awaken to find himself in an unrecognizable scientific world. Only our ancient hospitals will be there to reassure and comfort him when he wakes.

These scientific advances are to be welcomed and not to be nostalgically resisted. Even so, medicine still lags a little behind technology as practised in the applied sciences and industry. Fortunately our young men and women are well aware of the way the modern world is going and they will not allow medicine to fall astern of progress. They will be increasingly specialized themselves—occupied with molecules, chromosomes and cell membranes, protein synthesis, intermediary metabolism, ribonucleic acid, deoxyribonucleic acid, and microsomes, immunology, homeostasis, cybernetics, and such matters. Despite their preoccupation with the infinitely small in their afternoons they will adjust themselves to a high standard of patient-care in the mornings and evenings. To those critics who find it difficult to believe that anyone has the capacity to drive steeds so different in double harness I reply that it is happening to-day under our noses. Our hospitals contain plenty of young people who are both medical scientists and good clinicians. There are not yet enough of them, but those there are lead full and happy lives. Bedside medicine can be quickly acquired if intensively taught, depending as it does on good history-taking and careful physical examination. The recognition of disease patterns takes longer and can come only by continuing study of patients and books, but it has not been my experience that medical scientists are slow to learn it.

I want now to discuss the preservation of human values in medical practice despite the claims of advancing medical science and the demands of an increasingly organized society.

Human Values

Bronowski (1964) in his three essays *Science and Human Values* sought to establish the proposition that the practice of science compels the practitioner to form for himself a fundamental set of universal values. In the preface to his little book he writes: "I would, were I beginning again, give some space also to a discussion of those values which are not generated by the practice of science—the values of tenderness, of kindness, of human intimacy and love. These form a different domain from the sharp and, as it were, Old Testament virtues which science produces." He goes on to say that these two sets of values need to be linked in our behaviour.

Vice-Admiral Rickover (1964, 1965)—the pioneer of nuclear propulsion and a formidable technologist himself—has frequently advanced the argument that if our society is to remain humane and free technology itself must become humanistic. He sees this as possible because "the practising physician's technology is permeated by the humanistic spirit; it is centred on man. No one is allowed to practise medicine who has not given proof of his technical competence. The profession operates under a code of ethics which requires physicians to place the human needs of patients above all other considerations." He would have engineers obtain a bachelor's degree from a liberal arts college as do medical students in the United States. "Engineering," he writes, "should be practised as a humanistic profession . . . engineers should be humanistically or liberally educated persons."

If the thoughtful leaders of science and technology are thinking in this way it becomes the more necessary for us in medicine, with the rapid advance of our technology, to safeguard our humanistic traditions. Our technology is indeed "centred on man," man is the object of our study and of our care. What are these human values? Bronowski lists them as tenderness, kindness, human intimacy, and love. For medicine these characteristics may be comprised in the one quality of compassion. Compassion is not a characteristic of primitive societies nor of young children. It has to be acquired, and our medical students have ample opportunity of learning it in their work in the wards and clinics. Humanism in medicine is not, however, limited to the quality of compassion.

It is born of the recognition of the uniqueness of each individual. Our patients have been reared in an impersonal society and each of them is seeking for an authentic existence and for personal integrity. Not all of them recognize this need, and few of them put it into words, but the doctor who treats each patient as a person with individual desires and problems is behaving humanistically. Our society is increasingly standardized with a tendency not only towards universal conformity of behaviour but also to universal anonymity. A steadily larger number of persons find themselves at odds with their group or with society and require, at one and the same time, their "sense of belonging" to be restored and their individuality to be acknowledged. If the individual is indeed unique then medical humanism demands that both our diagnosis and our treatment should be individually designed and planned.

Biörck (1965), Professor of Medicine at the Karolinska Institutet, sees these conflicts as troubling the physician of the future as well as his patient. "The individual at all levels is thus reduced in importance . . . the attitudes become group-centred rather than individual-centred—a new type of doctor may be required, one who is satisfied with an anonymous group-ego within the medical unit." Obviously, the physician who has learnt this difficult way of self-abnegation for himself must not immediately demand these disinterested attitudes in his patients.

* Abridged from an Inaugural Lecture given in the Faculty of Medicine of the University of Leeds on 14 October 1965.

† Dean of the Faculty of Medicine and Professor of Paediatrics and Child Health, University of Birmingham.

One of the big problems in medical education to-day is to decide whether or not the clinical years will give our students, whose training up to then has been predominantly scientific, a sufficient humanity, an adequate sense of the uniqueness of the individual, which, as Bronowski and Rickover imply, are not the products of a scientific or technological training.

Hunter (1965) believes that they will, and he writes, in an engaging passage: "Medical students certainly gain if they can spend their formative years with students of other faculties, but the advantages can be overemphasized. Medical education is in a sense liberal and humane, and medical students tend to become personally mature through contact, however indirect, with the work of the hospital. Even in multifaculty colleges they tend to have a life of their own which is robust and not altogether uncivilized, and their extracurricular activities are varied and stimulating. Generally they have small Latin and less Greek, but a culture based on Merseyside with undertones of Freud and Picasso is not a bad substitute and is a valid part of the new Humanism."

It is possible to interpret these works as an encouragement to those of us who live on a provincial campus to engage in extracurricular activities, to chat to the psychologists about mental mechanisms, and to discuss abstract painting with the artists—as a valid part of the new Humanism. Life in a provincial university does offer us this opportunity to continue our liberal education. I must here quote John Henry Newman (1859). "The practical end of a University Course," he wrote, "is that of training good members of society. Its art is the art of social life, and its end is fitness for the world. . . . Nor is it content, on the other hand, with forming the critic or the experimentalist, the economist or the engineer, though such too it includes within its scope. But a University training is the great ordinary means to a great but ordinary end; it aims at raising the intellectual tone of society; at cultivating the public mind, at purifying the national taste. . . ." No professional man has more need than the doctor of being a "good member of society," and, despite the claims of advancing technology, we should try to provide for our medical undergraduates a liberal education.

I hasten then to congratulate you that here in Leeds you have the advantage of being in truth university undergraduates, an opportunity largely denied to the London medical students of to-day. Congratulation must carry with it the comment that the provincial medical schools have not made enough of their university opportunities, though they do now begin to realize them. Interfaculty study courses are becoming common, and more generous elective periods will be provided by those who design our medical curricula. The student, of course, may prefer to use his elective periods in the pursuit of religion, in sailing, or in playing football, and the Establishment should be permissive in this matter, unready to prejudge the cultural value of what holds a particular interest for the individual. But we should wish that some of our medical students will take advantage of the opportunities proffered by a university to pursue some study outside the medical curriculum, believing with John Henry Newman that the practical end of a university course is "that of training good members of society" for the "art of social life" and for "fitness for the world." The cultivated doctor will thus have a built-in defence against an overweening medical technology which may in the future threaten to overthrow his humanistic impulses. With such safeguards it should still be possible to make good personal doctors of our students despite the necessarily insistent claims of medical science.

Doctor-Patient Relationship

Profound and disturbing questions are emerging for us as medical humanists, which are created both by the advance of medical science and by the increasing complexity of our social organization. These will subject the doctor-patient relationship

to pressures a great deal more subtle than those that could formerly be met by a plain answer to the simple question, "What is my duty to my patient?"

The first breach made by society in the doctor-patient relationship was caused by the judiciary, which insisted that the doctor witness could be compelled to reveal in a court of law some fact disadvantageous to his patient. The claims of society were then seen to be more important than professional attitudes. Any doctor who has engaged in clinical practice for many years will recall occasions when his social conscience has triumphed over his professional conscience. A not uncommon situation, and one which has come within my personal experience, is the epileptic patient who continues to drive his car and refuses to reveal his disability to the licensing authority. It is well to remind ourselves that, though the doctor's duty to his patient has still to be his first consideration, the doctor as a citizen has responsibilities which can transcend this relationship. A rapidly changing environment both for doctors and for patients is going to produce many more situations which will call in question these traditional attitudes.

The Doctor as an Agent of Society

The doctors who in the prison camps of Hitler's Germany allowed themselves to forget their duty to man in their submission to the demands of the State are agreed to have acted reprehensibly. Their moral and professional codes were inadequate to resist the social pressures to which they were exposed. These were extreme examples, but it would be naive of the medical profession to imagine that never again would the State make intolerable demands upon doctors and that never again would our weaker brethren give way to them. At the Commonwealth and Empire Law Conference in Sydney the Chief Justice of the Supreme Court of Pakistan suggested on 27 August 1965 that criminals should be punished by surgical disablement of a hand or a whole limb. "Medical science," he said, "having advanced so greatly, it should be possible to deprive a criminal of the use of a hand or whole limb by a small piece of surgery." Indeed it could be argued that this surgical crippling of the criminal is but a short step from the castration, or the treatment by oestrogens, of the male sexual offender. Such crude assaults on the individual may be easy to recognize and resist, but future social pressures may present more subtle tests for professional consciences. I think that the opposition of some gynaecologists to the liberalization of the abortion law, which they might agree was desirable on other grounds, lies in their recognition of the professional difficulties which may be created for them. An operation which has been justified by law and is demanded by the patient as of right will be difficult to refuse on personal grounds.

The subject of euthanasia, which has temporarily ceased to be a subject of debate on account of legal opposition, may one day present another moral problem for the medical profession. Meanwhile the doctor's daily dilemma remains of whether to prolong life or to mitigate suffering "when these last two goals intolerably conflict, as they so often do" (Vickers, 1965). This clinical problem, common in the degenerative years, presents itself in a particularly painful form in the healthy child who, having entered an episodic illness, whether encephalitis, hypoglycaemia, or vascular accident, emerges from it with life preserved but with a brain irretrievably damaged.

Biörck comments on a different aspect of a similar problem. "The new power of maintaining artificial life in the absence of a functioning brain repeatedly poses questions about the borderlines of life and those of the physician's responsibility. This is a very troublesome dilemma, not least for the young doctors and modern nurses who have found their way to technology in an attempt to escape the burdens of human understanding in the old-fashioned clinical environment." We should not encourage the naive belief, if indeed it exists among doctors

and nurses in this country, that scientific medicine in some way diminishes the human problems of our patients. Human understanding is required of us in higher degree when we engage in the diagnostic and therapeutic applications of modern medical science which are so much more demanding both of doctors and of patients than they were in the days of diagnostic inadequacy and therapeutic nihilism.

The Psycho-social Doctor

The increasing opportunities for therapeutic intervention which the advances of psychiatry have provided for psychiatrists seem likely to offer them many personal problems. The manipulation of man's personality and behaviour by psychiatric means is proceeding apace. The great range of pharmaceutical agents now available and the conditioning and deconditioning experiments increasingly practised have notably enhanced the preventive and therapeutic powers of psychiatrists. We have travelled a long way from the days when the operation of leucotomy was regarded by some sensitive psychiatrists as an intolerable assault on human personality. There is no moral dilemma when the psychiatrist can convince himself that these procedures are in the interest of his patient, and none when the interests of his patient and of the group (the family) or of society are coincidental. The problem will be less easy for him to resolve when these interventions are demanded by the group or by society, as they increasingly will be, and he may not see them as in the best interests of his patient.

Biörck forecasts "an infinitely more complicated and interlocked society, depending more and more on internal regulations to diminish friction. Teachers and doctors together will be given the task of conditioning citizens to this regulation of human nature." Vickers, too, discusses the training and function of this new race of psycho-social doctors, half psychiatrist and half general practitioner. It certainly appears that their first loyalty will be to society and their major task to produce conforming citizens. Undoubtedly these psycho-social doctors are cast for a major role as we move into Huxley's *Brave New World* and Orwell's *1984*. I fortify myself with the notion that no doctors are better fitted to handle this complex situation than are psychiatrists and none is more likely to be the guardian of the human spirit and the apostle of humanism. Vickers claims too much for psychiatry when he says that "it restores its patients to a better state than that which their illness displaced." This therapeutic horizon is still a distant prospect and, perhaps fortunately, psychiatrists are likely to have plenty of time to adjust themselves to the resolution of those dilemmas which society will one day impose on them.

The Doctor as Administrator

We are familiar with the conflict in emerging countries between the priority of nutritional, preventive, and hygienic measures and the demands of medical science for the introduction of the latest expensive item of medical care into the hospitals. We have no doubt that the many should be saved at the expense of the few. The same problems in priority of medical care lie with us at home, though they are seldom stated, and we tend to resolve them by the refusal of public discussion. In affluent countries prolongation of life will always be available to the rich, whether it be by resuscitation, by renal dialysis, or by organ transplant, but in countries less affluent and whose medical care is provided by the State these decisions tend to go by default.

The public purse is limited, the Treasury allocates the money available to the Ministry, and the Ministry decides what should be spent on domiciliary and public health services and how much should go to the hospitals. The regional boards decide what they should give to the care of the mentally subnormal

and how much to their diagnostic and therapeutic services. If a teaching hospital discovers that cardiac monitoring, or renal dialysis, is essential for its patients, the money for them has to be found within its annual budget. In theory, this system should have the admirable result of compelling everyone from the Ministry to the local administrators and medical staffs to decide on priorities of medical care, to analyse their costs, to discard what is inessential, and to remedy deficiencies and extravagances. In practice, as is generally known, the relevant inquiries are now only beginning to be made. Decisions will be difficult. Economic questions have to be answered in terms of human values. Is the human wastage prevented by efficient cardiac monitoring of more value than that saved by renal dialysis?

Yet the deeper issues cannot be decided on economic grounds alone. Our civilization is committed, as is the medical profession, to the care of the mentally subnormal, the physically unfit, and the aged. Most of us are happier to be living in a country which has decided to spend some of its income on these responsibilities even though this does not allow a surplus to be used for space research.

The Doctor as Investigator

The advance of medical science has in our generation presented another human problem for doctors, particularly for those who work in hospitals. Medical research can no longer limit itself to animal experiment, and the required investigations have to be conducted on patients who have put themselves in our care for quite different reasons. The researches planned may extend our knowledge of human disease and they may therefore bring benefit to mankind, but they may bring no help to the particular individual on whom they are being conducted. The doctor's dilemma is apparent. His duty, on the one hand, is to his patient, and on the other to the service of society by the advancement of medical science. The doctor has a professional and human duty to ensure that nothing that he plans to do will inflict harm on his patient—"never with a view to injury and wrongdoing." The ethical issues involved are seen at their simplest and most explicit in the clinical trials of new drugs. Animal experimentation is not sufficient. The haphazard administration to our patients of these new and powerful agents without clinical trial is an intolerable practice. The new drug may offer no more than marginal advantages over the old drug which it is seeking to displace; its toxicity can be determined only by long-continued observation of the human subject. Double-blind clinical trials may often be necessary, so that neither the doctor nor the patient knows what is being given. The patient may or may not be told that he has been included in a controlled trial.

The ethical problems involved in these experiments have naturally been the subject of careful thought by many distinguished doctors and by research workers (McCance, 1951; Fox, 1960; Witts, 1960; Bradford Hill, 1963; Platt, 1963). The Medical Research Council (1964) has provided guidance for its research workers. Dunlop (1965) has restated the conclusions of all thoughtful doctors. He writes: "I believe that a code of ethics and humanity has through the ages been built into the medical profession, and that clinical trials in this country have been conducted with a very high degree of prudence and caution. . . . The ultimate judge of what is justifiable is not a rigid code of ethics but the conscience of the doctor, which should be a tender one. . . . The end does not always justify the means, and the good things a man does can be made complete only by the things he refuses to do." Medicine is concerned that all these research procedures should be controlled with a scrupulous regard for human safety and comfort. The personal doctor is anxious that there should be no abrogation of his duty to his patient. Mankind would wish to discover what medical science demands of him and to decide if its reasons are valid.

Conclusion

I have stated more problems than I have solved. Enough has been said to suggest that the ethical problems presented to doctors by advancing medical science and by the future organization of society will become increasingly complex. The respect for human values is part of our great medical tradition, and neither the demands of medical science nor the claims of society will persuade us to discard it.

REFERENCES

- Biörck, G. (1965). *Brit. med. J.*, 2, 7.
Bronowski, J. (1964). *Science and Human Values*. Pelican Books.

- Dunlop, D. (1965). *Brit. med. J.*, 2, 437.
Fox, T. F. (1960). *Med.-leg. J. (Camb.)*, 28, 132.
Hill, A. B. (1963). *Brit. med. J.*, 1, 1043.
Hunter, M. I. A. (1965). *Ibid.*, 2, 552.
McCance, R. A. (1951). *Proc. roy. Soc. Med.*, 44, 189.
Medical Research Council (1964). *Report for 1962-63* (Cmd. 2382), pp. 21-25.
Newman, J. H. (1859). *The Scope and Nature of a University Education*.
Platt, R. (1963). *Doctor and Patient*. Nuffield Provincial Hospitals Trust, London.
Rickover, H. G. (1964, 1965). Reported speeches and personal communication.
Vickers, G. (1965). *Lancet*, 1, 1021.
Witts, L. J. (1960). In *Controlled Clinical Trials*. Papers delivered at the Conference convened by C.I.O.M.S., p. 8. Blackwell, Oxford.

GENERAL PRACTICE OBSERVED

Future of the Rural Cottage Hospital

Has the cottage hospital a function to perform or is it simply an anachronism? Is the best possible use being made of cottage hospitals, and, if not, what changes are required? These are some of the questions which present themselves to all who plan, administer, or provide the medical services of rural areas and about which little factual information is available. A recent detailed analysis of the work of one such hospital,¹ extracts of which we print below, has attempted to get the problem into a true perspective.

In view of the controversy over the future of cottage hospitals the authors thought that a detailed analysis of the work of one such hospital would be of some value in setting the problem in a true perspective. The hospital chosen for the study was the War Memorial Hospital at Chipping Norton in Oxfordshire, some thirteen miles from Banbury and twenty miles from Oxford. This hospital was selected because it seemed to be typical of what might reasonably be expected from a cottage hospital in regard to both the number of beds and the range of work undertaken.

War Memorial Hospital

The house, which forms the nucleus of the hospital, was presented to the town by Mrs. Walford during the first world war. The bulk of the general ward and casualty work at the hospital is undertaken by four doctors in the two practices in the town. Two doctors in single-handed practices in Charlbury regularly admit patients to the wards and visit them, while another doctor at Ship-ton-under-Wychwood also admits a few patients. Specialization is practised to a small extent. One general practitioner sees orthopaedic conditions, while another holds regular sessions for treatment of varicose ulcers.

Thirty-one beds are available for general and maternity care, and the policy in the medical wards is to keep one bed available for accidents. The maternity department is located on the second floor of the hospital, and consists of 12 beds in the ward, 4 amenity beds, an isolation ward, and 3 other beds in two rooms, which can be brought into use in emergency. There is provision for ante-natal work in a well-equipped room.

At the moment no mother who wishes to be confined in hospital is refused, with the result that there is very little domiciliary obstetrics in the area. General practitioners

book their own patients, and in some instances patients are referred to them from doctors in Witney, Burford, and other areas. Care is taken to see that only suitable cases are selected for admission to the general-practitioner unit; patients with complications or adverse previous obstetric history are referred to either Oxford or Banbury.

The hospital has no laboratory, but pathological specimens are sent to the Radcliffe Infirmary at Oxford after each clinic for haemoglobin, blood counts, Rhesus factor, and Wassermann and Kahn tests. By arrangement with Horton General Hospital Papanicolaou tests are carried out at all post-natal clinics for those mothers over 30 years.

When beds are scarce and a small waiting-list develops, the order of precedence for admission is a matter of discussion among the doctors concerned. It has never been found necessary to nominate any doctor as the "senior," nor has there ever been a medical staff committee. Between 1960 and 1963 the total number of discharges for the general and maternity departments combined increased by 16%; the increase being greater for maternity (19%) than for the medical (11%) patients. For the hospital as a whole the occupancy in the most recent years is around 80%.

Out-patient and Casualty Work

Over the past few years new patients attending the out-patient department number about 1,500, giving rise to total attendances of around 4,000. Of the total new patients, approximately 60% attended the casualty department, which was by far the largest single group. Apart from casualty, the departments with the largest number of patients were maternity and ophthalmology, these two specialties accounting for a fifth of the total new patients. Thus casualty, maternity, and ophthalmology made up four-

fifths of the out-patient work. Other specialist clinics dealt with chest diseases, general surgery, traumatic and orthopaedic surgery, psychiatry, and gynaecology.

The out-patient department not only provides accommodation for specialist clinics but it also gives the general practitioner an opportunity of carrying out x-ray and pathology investigations. Considerable use is made of these facilities. The hospital has certain advantages over the surgery for treatment. Facilities for dressings and nursing care are better and the range of equipment wider in the hospital than in the surgery, while a general anaesthetic can be arranged when required. Thus the out-patient services at Chipping Norton resemble the work of the newer idea of health clinics.

Advantages of Cottage Hospitals

Although there has been a social and medical revolution since then it should not be overlooked that to-day, even with modern transport, some parts of the country are still isolated, nor has everyone got private transport. The existence of the hospital at Chipping Norton is extremely convenient to the local population. Not only does it save patients a long and tiresome journey, either for admission to hospital or to attend the out-patient clinic, but it makes visiting patients in hospital much easier. Furthermore, since the general practitioner is also responsible for the patient in hospital, he is able to provide a continuous medical care programme for his patients, which is seldom the case when a patient is referred to a large hospital.

A more controversial field is the use of general-practitioner hospitals for maternity work. For some time it has been generally accepted that such high-risk groups should be supervised and delivered in the main hospital, and this is the view held by the general practitioners in Chipping Norton. However, it is much more difficult to persuade high-risk