PAPERS AND ORIGINALS

Cui bono?*

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It occurs to me that my title may have induced a number of fellows to attend in the expectation of an oration in Latin. That hope—which would of course have been in accord with Harvey's own wishes—I have now dispelled, but I will not take it evilly should they now, in their disappointment, wish to withdraw. Fowler castigates the use of "Cui bono?" as an example of "battered ornament." But at least I am using it as Cicero used it, in its proper sense of "Who gains?" and not "What good is it?" I make this point, which may well seem a trivial one, to indicate that my theme is a somewhat narrower one than "the purpose of medicine," which Sir Theodore Fox chose as the title of his Harveian oration of 1965.

I imagine that a certain recurrence of theme has not been unknown in a series of orations given annually for upwards of three hundred years; but it may be thought strange to return deliberately to a closely related topic after only twelve years, particularly as I would not dissent materially from any of the views which Sir Theodore then expressed. But those twelve years have been eventful ones for medicine and for society in this country; and my present canvas is somewhat different from, and indeed rather narrower than, the one painted at that time with such skill. I should like to demonstrate this (with all the injustice of summarisation) by reminding you of the substance of that oration.¹

The 1965 Harveian oration

In an introductory passage, Sir Theodore says "I want to examine the purposes that medicine serves. We are proud to be servants; but we are servants of—what?" He then goes on to consider five possible answers—science; the race; life; people; and nature. He dismisses science with a "No" rather more categorical than I would myself have given. I believe that much of medicine is, or should be, a branch of science—but I cannot dissent from his conclusion that "Though the doctor uses science as an instrument, it is a means whereby he serves something else."

*Based on the Harveian oration given at the Royal College of Physicians of London on 18 October 1977.

Fox goes on to say, "What he serves is his fellow man. But man is a social animal. Does that mean that the doctor serves society? And, if so, what society?" These have never been simple questions, and one of the marks of the past decade has been an increasing questioning of professional activity, both by individual patients and by publicists, of whom Illich² has perhaps achieved the greatest notoriety. I propose therefore to re-examine this matter, but for the present let me indicate Fox's view. He suggests that the doctor, permitted in time of war to treat foe as well as friend, may be allowed by nations to have "a more advanced code than their own." But, faced with a choice between "The race as a whole" and "the individuals who compose it," he points out that "the human race does not need a doctor, whereas human beings do."

Are we then servants of life? Fox's answer, with which I agree, is in effect not in all circumstances, and not at all costs, especially using unnatural means, for the sake simply of maintaining general trust in our profession. When it comes to the individual life ("people") Fox recognises that "in a world where lives are so often held cheap, the doctor unquestionably has a special duty to hold them dear." But he goes on to say, "With each new revelation of William Harvey's 'secrets of nature,' we have more need to distinguish what is desirable from what is feasible. Because a thing can be done, we are not obliged to do it—whether it be flying to the moon, or keeping a patient alive in coma for 12, 20, or (why not?) 70 years."

In relation to nature, he sees a duty, both to our own species and to other species, arising from the population explosion. "Of one thing at least we can be certain: if man cannot himself control his terrifying multiplication, nature will do it for him. Famine, pestilence, and war are impatient to resume the parts they have played so often. Having helped to create this situation, medicine should help to resolve it." I now leave Fox's oration, not without recalling the line from Lycidas, "That strain I heard was of a higher mood." Resuming my own Oate, as it were, I return to the question implied in my title—"Who is, or ought to be, benefited by medicine?"

Who benefits from medicine?

The answers which would be given to a question of such generality depend very much on the mind of the responder. They will certainly differ very greatly in detail, reflecting differences of temperament, of training, and of experience. Even in principle, some of the answers proposed by social scientists may appear to doctors to be excessively radical. Nevertheless, I think it is important to look at them dispassionately, since those who hold them are not without influence on policies which affect our profession, and—more important still—our patients. There are obvious hazards in the attempt by an amateur to reclaim messages from what is now a considerable mass of sociological writing on medical practice, much of which matches "the

medical literature" itself in a certain lack of lucidity. There is, of course, no consensus of opinion among sociologists, any more than there would be among doctors, on this theme; but I will try to illustrate their approach, using to some extent direct quotation, lest my ignorance or my errors in sampling should distort the picture.

Sociological views

In the early fifties, Talcott Parsons put forward a concept of illness which has been a focus of discussion and criticism ever since. With possibly some memory of Samuel Butler's *Erewhon*, he suggested that the "sick role" was a form of "social deviance," and that the physician in that context was "an agent of social control." This formulation was discussed in 1974 at a session on "The Sick Role" at a meeting of the International Sociological Association, and the papers presented there have since been published. Although "deviance" was not used as a term of blame, apart from occasional instances of conscious or unconscious "secondary gain," Gallagher³ felt it to be less adequate than another concept also implicit in Parsons's writings, that of "maladaptation." A healthy person has a certain capacity to function normally, which is diminished by illness, and may be restored by treatment. Gallagher himself felt that this model was more appropriate to chronic illness than the deviance model. Parsons⁴ welcomed Gallagher's concept of health as a category of the individual's capacity, and agreed with its particular relevance to chronic illness; but maintained that social deviance was still a valid component of the sick role, even if the motivation was frequently unconscious.

In a more radical criticism of the deviance concept, Gerson⁵ suggested that the relation between patient and physician is not an attempted correction of social deviance, but rather a transaction akin to politics, in that both parties are in a negotiating position. In his view, concentration on the deviance model has led to the development of two research traditions, opposed but equally sterile—the one which accepts "the occupational ideologies of the medical profession (and their concomitant interpretation of events) at their face value," and assigns patients to a subordinate sick role; and the other, "which sees things from the point of view of the layman patient, and conceptualises medical staffs as heartless, inhuman, and often incompetent; prone very much to increase suffering through the systematic enforcement of indignity as they are to relieve it through the use of medical technology." (The grammar in that quotation is that of Gerson.) Discussing both these extreme views, he advocates study of the political factors in health care delivery, which he sees as the major determinants of what actually happens. Gallagher⁶ also criticises the Parsonian sociology of illness as being too "medicentric." As he puts it, "the defect in the system is that physicians are deficient in recognising and coping with the impact of the patient's social relationships and customary physical environment upon his disease and his treatment. This blind spot in professional practice stems directly from the nature of medical practice and the social structure of medical care, both of which place heavy emphasis upon the cognitive understanding of disease process."

On the other hand, Parsons¹ remains of the view that the relation between doctor and patient is "basically asymmetrical, because of the physician's expertise in health matters, gained through training and experience, and his special fiduciary responsibility for the care of the sick. In this respect the relationship is different from others such as the competitive market and the democratic association, but is comparable to the relation of teacher and student in higher education." In the paper from which I have quoted, Parsons mentions that he is himself a mild diabetic, which may give added meaning to his appreciation of the role of the doctor. But trust of this order implies obligations on the part of the doctor. In addition to requiring "high intelligence and moral probity," and a technical competence based both on formal training and on experience, there is still "a third component essential to the implementation of fiduciary responsibility in this field. This essentially is the willingness of the person assuming such a role in fact to exercise such responsibility and to act within the limits of his prerogatives as a genuine trustee of the patient population relative to whom he assumes responsibility. This is a component which goes beyond competence in the more narrowly technical sense."

Deficiencies of medical sociology

Returning to Gerson's concept that the proper study of medical sociologists is the organisation of health care delivery, considered as a "political" system, I detect in some writing on this theme a lack of

appreciation of the urgent character and the distracting stresses of hospital work. Let me give a concrete example. In a book which I would commend to those who wish to know more of the attitudes of medical sociologists, Tuckett⁷ quotes verbatim (pp 380–382) the narrative of a patient who took his wife to hospital with a broken wrist. He voices the familiar complaints that "the procedure was somehow like a factory assembly line," and that "We had to ask all the questions. When we asked, an explanation was given, as briefly as possible, but *we* had to ask." Earlier, however, he had said, "While the forms were being completed, the girl taking information was interrupted three times by calls from doctors and twice by calls from other nurses." In the tacit approval which Tuckett gives to this narrative as an example of "lack of caring," there seems to me to be too little awareness of what life is really like. Would he propose *less* organisation, to correct the resemblance to a factory assembly line; or an additional member of staff to take admission particulars, undistracted by telephone calls; or that these should go unanswered?

My criticism—and it is of course a biased one—of the views expressed by the more radical sociologists is twofold. Their preoccupation with the ills of our present society leads to undervaluation of those elements of good which have been carefully accumulated over the years; and their concentration on *role-playing* is at risk of being a substitute for analysis of the actual *tasks* which have to be performed. Both these attitudes go against the grain of the meliorising individualistic approach which informs the greater part of the practice of medicine. Nevertheless, we should try to recognise that talented men and women would not enter medical sociology, thereby deviating from the main stream of their own profession, unless they had a genuine interest in promoting the welfare of patients. I must confess that I cannot extend my sympathy to those who, like Gerson⁵ see a "fundamental flaw" in the "assumption that the interests of physician and patient are harmonious if not congruent." While complete congruity of interest between patient and physician may be unrealistic, given the intrusion of self-interest on either side, I would regard harmony as an essential component of the relation between doctor and patient. It may, in limited circumstances, be difficult to achieve; but this is no reason for failing to emphasise it, and to strive towards it. But can we not also work towards harmony between physicians and sociologists, recognising that theirs is a young science, and that when they may appear to attack our profession, the spring of their criticism, however immaturely expressed, may be a desire to protect patients from what they see, in my view mistakenly, as a self-seeking monopoly? After all, criticism of doctors is no new thing, as I hope to show later on in a brief retrospect of the situation in Harvey's own day; and our best defence against it is to try to understand it, and by improving our own conduct to remove those grounds for it which may be legitimate. It is up to us to extract the positive and helpful elements from the work of medical sociologists, and to hope for still better things in the future. They on their side could help by a less grudging recognition of what may seem to us obvious, that doctors like their patients to get better, but do not desert them if things are going badly.

In summary, I would share the hope which has been well expressed by Tuckett⁷: "Through greater sociological understanding many clinical judgments may be made more rationally; much of the frustration in present-day practice may be overcome; the behaviour of patients, of colleagues, and of large organisations may be better appreciated; and the doctor may be able to exercise the therapeutic skills he has learnt in other parts of his training more effectively for the benefit of his patients."

From "medical sociology" to "social medicine"

Traditional concepts of the primacy and value of individual medical care have been challenged by distinguished exponents of social medicine, such as Kerr White in the USA, and Cochrane and McKeown in this country. It would indeed be hard to find more engagingly written monographs on a medical theme than the Rock Carling lectures respectively of Cochrane⁸ and of McKeown.⁹ By way of preface to his own monograph, McKeown outlines the distinction between Cochrane's approach and his own. He sees Cochrane as accepting "the traditional lines of health services and medical research, apart from the imbalance in investment between care and cure." But for his own part he assumes the role (to me somewhat ambiguous) of "an academic Billy Graham who bears the glad tidings of health for the taking to a grateful people." Laying emphasis on the degree to which people can better their own health, he ascribes the impressive fall in mortality since the end of the seventeenth century "predominantly to a reduction of deaths from infectious diseases." He

regards improved nutrition as the major factor contributing to this achievement, with improved hygiene making an important further improvement from the second half of the nineteenth century onwards; the impact of medical procedures came much later, and was relatively small. In the light of this analysis, he regards medical science and services as misdirected, because they rest on an erroneous assumption about the basis of human health. In his view, this has led to "indifference to the external influences and personal behaviour which are the predominant determinants of health." He also (and here he agrees with Cochrane) alleges "relative neglect of the majority of sick people who provide no scope for the internal measures which are at the centre of medical interest." Whatever weight we attach to any distinction between these two approaches, neither of them gives much comfort to those who have spent their working lives caring for patients and studying disease.

I could not begin to compete with the elegance of their proclamations, which give me a feeling akin to that of General Booth, when he asked "Why should the devil have all the best tunes?" But I cannot ignore the important question "Are they telling the truth?" To put it another way, does clinical medicine as traditionally practised correspond to a genuine human need? Does it go any way towards satisfying it? I am not concerned here with detailed criticisms of McKeown's thesis, such as Lever⁸ has made—the concealment, for example, in mortality statistics that diabetics now die at a much more advanced age than in the days before insulin became available. Here, I can deal only with the general question, whether a wholesale redirection of medical training and practice would in fact advance the interests of society, of patients, or of doctors. I would stress initially the substantial element of "common interest" of these various groups, so commonly distorted by portraying them as rivals.

"Medical" and "social" models

In some formulations—for example, the SSRC report¹⁰—a contrast is drawn between a "medical model" and a "social model" of health care. (It may be noted in passing that the "medical model" is something ascribed to doctors, not something invented by them.) Packages of attributes have been assembled to characterise the two models, and these are shown in table I. It is important to note, however, that while each pair of attributes is a more or less complete antithesis, the packages as a whole are not opposed. If I may illustrate this point by one or two pointed questions, are not the wishes of patients often directed towards "cure", rather than "care"? Is there not an element of comfort for the patient to be derived from seeing medical competence well supported by technical aids? Does not the type of care required depend much more on the nature of the problem, than on the roles ascribed to doctor and patient? And finally, are doctors in general really indifferent to the care of chronic illness?

TABLE I—Attributes characterising the "medical model" and the "social model" of health care

Medical model	Social model
Individual	Population
Treatment	Prevention
Cure	Care
"High technology"	"Simple measures"
Hospital	Community
Specialised care	Primary care
Acute illness	Chronic illness
Concepts of "disease"	Percepts of "illness"
Patients	"Client groups"

Elsewhere¹¹ I have represented more fully, and also criticised, the concept of "client-orientated medicine." Here, I can only indicate the grounds of my reservations—this approach neglects important values in medicine, such as the pursuit of excellence in practice, the desire to add to knowledge, and the satisfaction of direct contact with people. It contradicts the concept of medicine generally held both by patients and by doctors. It diminishes clinical freedom, which like all freedom is open to abuse, but is nevertheless of common advantage to patients and doctors. In so far as it tends to disparage clinical specialisation, it prejudices potential advances both of theory and of practice. And it seems to me at least possible that it is something which patients do not really want. It could, of course, be argued against that last point, that even if they do not want it, patients need it; but this particular imputation of need has not been proved.

The views of economists

The need for doctors to be aware of the economic implications of their decisions is stressed in the Annual Report of the General Medical Council for 1976. Sir John Richardson expresses it thus: "In order to ensure the best use of resources and to avoid frustration, doctors must be educated in the use of resources and in their economic implications. They must also play their part in the allocation of resources at all levels including local levels."

It would, however, be idle to pretend that this is an outlook which comes naturally to the practising doctor, partly because of the priority which he must give to his clinical work, but also for a further reason which has been well expressed by Alan Williams.¹² "In the medical field two distinct kinds of choice arise: one at the clinical level and the other in the planning process. At the point of contact with a particular patient a doctor's duty is to do the best he can for that patient within the confines of existing knowledge and facilities. In the planning process, on the other hand, the concern is with large groups of potential patients at some future date, and with decisions that will to some extent determine what the confines of existing knowledge and facilities will be at that date."

Implicit in that last phrase is the justification for some doctors to go as it were against the grain of their natural preoccupation with individual illness, and to explore the potential of a partnership with economists who have taken an interest in the Health Service, and in the social services which are complementary to it. There are, I believe, very real dangers to the future of medicine if health service economics is left to politicians, administrators, and economists, lacking an adequate medical input. And I should like to go one step further, by saying that the medical input should be made in part by those with considerable experience of clinical practice. This is not to undervalue the distinctive contribution of the community physician, with his special training in the epidemiological outlook, but this must be complemented, and at times even corrected, by people steeped in clinical experience, giving them a lively sense of what medicine can do. If this component is lacking, important elements of modern medicine will be undervalued; and adequate support will not be given to biomedical research, wherein lies a certain, even if unpredictable, hope for further improvement in medical practice. Preoccupation with the adverse reaction to powerful drugs¹³ or with uneven quality of care¹⁴ must not blind us to what has already been achieved, and what may be achieved with greater knowledge in the future. We must avoid at all costs what may be called "the Feldsher fallacy," which goes so far along the path of inverted elitism as to suggest that what may perhaps be a necessity in the Third World is also desirable in developed countries such as ours.

In arguing for medical participation, I am not of course insisting on medical dominance. Even if macroeconomics is not apparently enjoying a whirlwind of success at the present time, nevertheless economics is a scientific discipline in its own right. It has come of age, and we must work with economists as we have already, even if slowly, learned to work with statisticians—bringing them in at the planning stage of any investigation which has an economic component, and not just presenting them with a jumble of information, and asking them to make sense of it.

Contribution of economists

Having acknowledged the contribution which economists can make, may I now ask "In what does it consist?" In trying to answer that question I have been greatly helped by a paper prepared by M F Drummond¹⁵ for non-economists (including practical clinicians) "wishing to appraise health care alternatives from an economic point of view." This is the introductory section of a manual being prepared on behalf of the Medical and Social Science Research Councils, aimed at "medical researchers with no training in economics"—which may explain why I have found it particularly helpful. It does not yet have the imprimatur of the sponsoring councils, so I am particularly indebted to the author for permission to draw on the concepts it expresses. The completed manual should become available in 1978.

Drummond identifies four relevant questions, deceptive perhaps in their apparent simplicity:

- What is the cost of treatment?
- What is the benefit from treatment (or what is the cost of illness)?
- What is the most economical way to treat a given condition?
- Is the treatment worthwhile?

On the first of these, he makes the point that in addition to the resource inputs represented by treatment, account may have to be taken of the temporary reduction in health occasioned by some forms of treatment. The

second question raises the difficult matter of defining and evaluating the improvement in health consequent on successful treatment. Neither of these questions by itself constitutes an adequate evaluation, since question (a) considers only the bad effects of a treatment, and question (b) only the good effects. It follows that the answer to (a) in isolation cannot condemn a treatment, nor that to (b) substantiate it. (It should be noted in passing, however, that a treatment—for example, penicillin in bacterial endocarditis—which leads to survival in an illness which is otherwise uniformly fatal, is likely to gain acceptance without the gloss of a rigorous economic analysis.) The economic dimension is made more explicit in question (c), in relation to which Drummond asks an important subsidiary question: "If the choice is between two alternative treatments for the same condition, is the more medically effective treatment to be chosen every time, regardless of relative costs?" Generally, but not invariably, the course that is most efficient economically and that which is most effective medically are likely to coincide; but without unlimited resources, it must sometimes be right to select a slightly less effective (but much less costly) course of action in preference to a very costly counsel of perfection. This brings in the concept of "opportunity cost"—if we refrain from a particular use of resources, thereby freeing them for other uses, will there be a greater total benefit? Question (d) is possibly even more repugnant at first sight. The instinct of doctors and the hopes of patients push strongly towards "doing something"; and our impression that treatment is valuable is not always corrected for the placebo effect—to ourselves, as well as to our patients.¹⁶ In commending question (d) as a proposed subject of study, I am not of course reverting to the therapeutic nihilism from which we have been rescued by the vast array of effective drugs now at our disposal. Controlled trials may establish, at a given level of probability, that a benefit from treatment exists (or, of course, they may not); but even a real benefit may still be marginal, and at that stage I do not think it improper to introduce the economic dimension, and to know something of the ways in which it can be made explicit.

Economic evaluation

The successive steps in the economic evaluation of a proposed course of action in comparison with alternative courses (which include doing nothing) are enumeration of relevant effects (both costs and benefits); measurement (or quantitation) of the effects; and explicit valuation of the effects—commonly, though not necessarily, in monetary terms.

ENUMERATION

The effects to be considered fall into three categories—change in the use of resources, in productive capacity, and in the health of the patient. The resources to be considered are not only those of the Health Service, but also those of other related services, both public and voluntary, and the effect on the patient's personal resources and those of his family—for example, in attending hospital, or having a room converted for dialysis. It is not, however, correct to include "transfer payments," such as sickness benefit and loss of tax revenue; the effect here is a redistribution of resources, not a change in their total amount. Change in productive capacity may be positive or negative, depending on whether treatment enhances the capacity for work, or entails absence from it. Change in the individual's health, which is the category normally of the most direct interest both to patients and doctors, is sometimes overlooked in an economic analysis; but wrongly so, both in Drummond's view and in mine, since even if it does not affect productive capacity, an improvement in health is of value not only to the patient, but to his family and friends. The obvious difficulty of evaluating changes in health is not a valid reason for neglecting it. Indeed, enumeration of *all* the relevant effects is important in order to avoid undue attention being paid to the quantified (or measured) effects at the expense of the unquantified.

MEASUREMENT

There is obviously considerable variation in the ease or difficulty with which effects, once enumerated, can be quantified. For example, within the Health Service the time spent by doctors and nurses on a given treatment is ascertainable, and also the cost of drugs and other medical supplies; but the share of common services, such as hospital space, heating, power, etc, must be estimated less precisely. Similarly, the time lost by a wage earner is inherently more measurable than the loss of productive capacity of a housewife, though the latter is none the less real. Measurement of changes in health is clearly more difficult still—so much so that it may be advisable to bypass measurement, and proceed direct to valuation on the basis of what the patient would declare himself willing, if necessary, to pay to achieve a given relief.

EXPLICIT VALUATION

Generally, effects which are readily measurable may also be translated into money terms, using wage rates, or the market price of commodities. There remains the considerable difficulty of dealing with elements, such as changes in health, which are difficult to quantify. Crude valuations can certainly be derived by soliciting the views of patients, or from the estimates of professionals and policy makers, or from the judgment of the courts. Each of these methods is certain to entail arbitrary value judgments; but the apparently more objective "market-based valuations" are not entirely free of arbitrary elements, nor of such distortions of true costs as are produced by monopolies, differential taxation, or the effect of advertising on the choices of consumers. It may, of course, be possible to diminish some of these uncertainties by comparing the hard cost of two or more treatments, each of which is expected to produce the same given health benefit, preferably an unambiguous one, such as prolongation of life for a year, with the safeguard that the life so prolonged is of adequate quality. For example, Klarman *et al*¹⁷ compared alternative treatments of chronic renal failure in this way.

Health expenditure

Thus far, I have been dealing with the elements of economic analysis applicable to particular facets of health care. I do not see economic accountability and clinical excellence as being in radical conflict—that is essentially a defeatist view. The clinically second-rate is quite likely to be economically wasteful as well—for example, the prescription of the latest and most expensive antibiotic against an organism whose sensitivity has not been established, or the blunderbuss use of haematinics without a precise haematological diagnosis. It is in order to conserve what is good in clinical practice that we must identify what is wasteful against the undeniable back-drop of escalating health-service costs, which is worldwide. The increase in absolute figures over the past few years is of course exaggerated by inflation, and the real increase in the cost of health services is better, though still not perfectly, shown by expressing them as a percentage of gross national product (GNP). On this basis, health expenditure in the United Kingdom increased from 3.9% of GNP in 1960 to 5.3% of GNP in 1973.¹⁸ In the USA health expenditure on the same basis increased from 5.2% (1960) to 7.7% (1973). In that country the rate of increase is itself increasing—for the decade 1956-66 it was 8% a year, and for the decade 1966-76 12% a year.¹⁹ Among the factors responsible, Klarman identifies in the USA an increased population both of children and of the elderly, increased sophistication of medical care, and heightened popular expectation and demand. The medical care system has been made responsible for services previously carried out by other agencies. As Eisenberg²⁰ has put it, "Over the long run, a medical care system is both inadequate and inappropriate as a mechanism for responding to the range of human needs that has been thrust upon it. It is expected today to provide services formerly supplied by the extended family, the church, and the schools. Palliative responses to social dislocation are inevitably self-defeating; victims multiply faster than personnel can be trained to resuscitate them."

In the face of these stresses of finance and of expectation, it is perhaps not surprising that there are demands for "a different kind of health service." But the advocates of change are not unanimous as to what they want. Rationing of medical care by the purse, on a "fee-for-service" or "private insurance" basis is advocated as a means to make the public more aware of the cost of what they are getting, and more responsible in demanding it. At the other extreme, redistribution of medical resources is advocated on grounds of equity. These two approaches, apparently so different, both seem to amount to a transfer of resources, rather than an increase in overall benefit; and they also share, in different ways, the danger of jeopardising the centres of excellence which have been painstakingly built up over many years. Until it was subjected to the recent strains of inflation and of political intervention (from both major parties) the Health Service had achieved a reasonable balance between the public and private sectors, and between specialisation and primary care. In spite of our current difficulties, I believe that the concept of a publicly funded health service is acceptable to most doctors, as it certainly is to the public, and to those who represent them in parliament. Although the experiments and expedients of the Heath and Wilson governments have not exactly strengthened the resolve of doctors to make the service work, I hope that the seeds of goodwill are still there, ready to germinate once again, as they certainly did in the earlier years of the NHS.

In retrospect

When times are hard, it may be consoling to look back at some of the difficulties which our profession faced in earlier times; and it is appropriate on this occasion to look at the situation in the days of William Harvey. In doing so, I am much in debt to a scholarly work by Webster.²¹

The seventeenth century was a time of considerable unrest both in medicine and in society. The long domination of Galen's system of medicine was beginning at last to be questioned, following the anatomical studies of Vesalius and the iatrochemical views of Paracelsus in the preceding century. One factor in prolonging the ascendancy of the older system was the monopolistic organisation of medicine. The reigns of the first two Stuarts were characterised by monopolies in many fields of activity, and medicine was exceptional, if at all, only in the complexity of its hierarchies. The Royal College of Physicians, although established in 1518, had in 1614 only 41 fellows, candidates, and licentiates together. The surgeons had obtained separation from the barbers in 1540, but the apothecaries were only separated from the grocers in 1617. Particularly outside London, the great mass of the people obtained their medical care from independent practitioners, sometimes licensed by bishops or universities—more often not—who included clergymen and gentlewomen, and lower down the social scale artisans and herbwomen. This reliance on independent practitioners cannot be entirely charged to the corporate monopolies, since the training of doctors seems to have been deficient both in quality and quantity.

Of medical trainings, Webster says "Before 1640 the English medical faculties appear to have adopted an extremely traditional approach to medical education. The professors were orthodox, and almost uniformly undistinguished. The essential ingredients (of the course) were lectures and the study of small sections of the Galenic and Hippocratic corpus." For the period 1620-40 Oxford produced an average of 2.5 MBs and one MD a year, while the equivalent figures for Cambridge were 1 and 1.5. This limited home-produced supply was of course augmented by students like Harvey himself, who went to the great continental schools. While the orthodox practitioners divided their energies between the defence of Galenism and of their respective monopolies, empirical remedies, often self-administered, were all that many people could afford or obtain. They were not satisfied. A system of practical medicine in the vernacular was proposed, so that people could assume greater responsibility for their own health; and even for a free health service, anticipating events by some centuries.

Puritanism

Webster has described in fascinating detail the part played by the Puritan movement and the Commonwealth in the struggle for medical reform, which included both an attack on the traditional Galenism and proposals for wider access to medical care or at least, failing that, medical information. Like other revolutionary movements, Puritanism, and especially the Levellers, were unfriendly to the professions generally, and not only to corporate medicine. Their views did not lack forcible expression. Samuel Hartlib said "The Liberty of our Commonwealth is most infringed by three sorts of men, Priests, Physicians, Lawyers. The one deceives men in matters belonging to their Souls, the other in matters belonging to their Bodies, the third in matters belonging to their Estates." And the pseudonymous Noah Biggs claimed that physicians "contracted by the opium of dull ignorance and sloth, are now slipp'd into the hands of Apothecaries and old women."

Puritanism was also anti-scholastic, in medicine as well as in religion. Paracelsus, with his strange blend of a convoluted and mystical view of the world and of man, and on the other hand a belief in empirically discovered "specifics," was a strong influence. Translations of Paracelsian works were current and popular in English in the Puritan period, and his unfavourable view of Galenic physicians was that they had less reliable knowledge than did "old women and empirics." The therapy based on Galenism is com-

pendiously denounced (with much else) by Biggs in his mere title: "The Vanity of the Craft of Physick. Or, A New Dispensatory, Wherein is dissected the Errors, Ignorance, Impostures and Supinities of the Schools, in their main Pillars of Purges, Blood-letting, Fontenels or Issues, and Diet, etc, and the particular Medicines of the Shops."

The desire for medical information in the vernacular was strong. Why indeed should medical knowledge be concealed in what Gibbon was later to call "the decent obscurity of a learned language"? Table II shows the numbers of medical works published in English in successive quinquennia. More specifically, Nicholas Culpeper published in 1649 a translation of the College's 1618 Pharmacopoeia Londinensis. In later editions he included additional matter such as abuse of the College, whose permission for the translation had been neither sought nor granted.

Webster provides evidence that "as well as promoting widespread participation in experimental science and encouraging its institutional embodiment, the Puritans also played an important part in framing its coherent ideological expression," largely but not entirely by operating as a force in favour of emancipation from scholastic philosophy. Happily, this part at least of their outlook survived the restoration of the monarchy, which in the person of Charles II founded the Royal Society.

For all its merits, the Commonwealth represented a period of considerable danger for our College. Many of its fellows were Royalist in sympathy, and the spirit of the times was against monopolies of all kinds, even those which aimed to protect the public. More important still, for the long term, the College might either have defended to the death (its own) the Galenic system, or equally fatally rushed to the extremes of iatrochemistry and empiricism. Perhaps even more than by his many tangible gifts, Harvey was a benefactor of this College by saving it from either of these extremes. Instead he encouraged it, both by his splendid example and by his specific precept, to "search and study out the secrets of Nature by way of Experiment." As Warden of Merton College, he also shared his devotion to physiology with colleagues such as Francis Glisson, and followers such as Thomas Willis. As Webster puts it, "William Harvey played a crucial role in this re-orientation from humanistic Galenism to experimental natural philosophy."

Keele²² deduces from the rather scanty available evidence that Harvey's practice was traditional and based on Galen. Nevertheless, his writings and influence were clearly incompatible with the Galenic system, and with uncritical dependence on traditions. He condemns Jean Riolan for his obstinate adherence to the physiology of Galen, hinting that "As Dean of the College of Paris, he was bound to see the physic of Galen kept in good repair." On the other hand, he was no Paracelsian, for as Aubrey says, "He did not care for Chymistry, and was wont to speake against them with an under-value."

Professional altruism

So far, I have been giving very largely the views of other people and groups, with I hope not too many errors of selection and interpretation. But before I conclude, I must state my own view of the matter. I have no doubt that the true and proper beneficiaries of the practice of medicine are patients, and that their interests must be the touchstone by which we must judge the conduct of those who care for them. This brings me to the important question which was raised by Sir George Pickering²³ in his Nuffield lecture to the Royal Society of Medicine, entitled "Medicine at the Cross-roads: Learned Profession or Technological Trades Union." I believe that in this College we understand what is meant by a learned profession, and I need not elaborate the concept beyond referring you to that lecture. Of trade unions, Pickering says "Each trades union seems to have had a single aim, namely to secure the largest possible slice of the nation's 'cake' for its own members at the expense of the other unions and the public." In the light of what the trade union movement has done to secure better conditions for the workers of this country, this might be regarded as an extreme view; but it is certainly consistent with public statements by union leaders, which at least appear to make the welfare of patients secondary to the interests of their members.

I would like to present two propositions in which I believe: (1) in claiming the status of a profession we acknowledge our duty to set the interests of our patients above our own self-interest; (2) an altruistic ideal will lead to better conduct than will a bald statement of self-interest.

I am, of course, enough of a realist to recognise that on the one hand people professing altruism will occasionally fall short of their obligations; and that people professing self-interest will often rise above it. Nevertheless, it seems to me incontestable that it is not only right, but also in the long term expedient, that we should behave as a profession, to the extent that our fallible human nature will allow. This proposition was put in the language of Harvey's day by the metaphysical poet Herbert: "He shoots higher that threatens the moon, than he that aims at a tree."

It would be both possible and conventional to base a plea for professional altruism on an appeal to tradition. Service to individual patients has been both preached and practised by doctors from time immemorial; and sometimes a still broader view has been taken of

TABLE II—Numbers of medical works published in English 1635-59

Quinquennium	No of works
1635-39	21
1640-44	7
1645-49	21
1650-54	82
1655-59	84

our responsibilities. (In passing I would deplore the antithesis which is sometimes fabricated between science and compassion. It was no professional social reformer, but the great Virchow, who said that doctors were the natural advocates of the poor.) Passionately though I myself believe in the value of a good tradition, we seem to be living in an age when such an appeal is insufficient. Despite the dangers of prediction, I suggest that it is the future of our profession, rather than its past, which compels us towards altruism. We can now do more for our patients than ever before, and we still stand high in public esteem, as tested in the current fashion by "attitude surveys." Justified public trust is the only solid base for the future status—and I do not forget material status—of our great profession. We are going through a troubled time, but if we hold to professional standards, we shall certainly come through it; otherwise I believe we shall be courting the very dangers of subservience which we are seeking by short-term expedients to avoid.

Conclusion

Having begun with a Latin title, may I end with a Latin tag? It seems to me to express, with the economy characteristic of that language, a good deal of what I have just been saying. Speaking of the disorders which followed the death of Vitellius, Tacitus says "Inter turbas et discordias pessimo cuique plurima vis, pax et quies bonis artibus indigent." Or, in the Loeb translation, "In times of violence and civil strife the worst men have the greatest power; peace and quiet call for honest arts."

References

- ¹ Fox, T, *Lancet*, 1965, **2**, 801.
- ² Illich, I, *Medical Nemesis*. London, Calder and Boyars, 1975.
- ³ Gallagher, E B, *Social Science and Medicine*, 1976, **10**, 207.

- ⁴ Parsons, T, *Health and Society*, 1975, **53**, 257.
- ⁵ Gerson, E M, *Social Science and Medicine*, 1976, **10**, 219.
- ⁶ Tuckett, D, *An Introduction to Medical Sociology*. London, Tavistock Publications, 1976.
- ⁷ Cochrane, A L, *Effectiveness and Efficiency: Random Reflections on Health Services*. London, Nuffield Provincial Hospitals Trust/Oxford University Press, 1972.
- ⁸ McKeown, T, *The Role of Medicine: Dream, Mirage or Nemesis*. London, Nuffield Provincial Hospitals Trust, 1976.
- ⁹ Lever, A F, *Lancet*, 1977, **1**, 352.
- ¹⁰ Social Science Research Council, *Health and Health Policy—Priorities for Research* (report of an advisory panel to the Research Initiatives Board). London, 1977.
- ¹¹ Black, D A K, in *Research and Medical Practice—their Interaction*, ed G W Wolstenholme and M O'Connor, p 169. Amsterdam, Elsevier, 1976.
- ¹² Williams, A, *British Medical Bulletin*, 1974, **30**, 252.
- ¹³ Davies, D H, *Modern Medicine—a Doctor's Dissent*. London, Abelard-Schuman, 1977.
- ¹⁴ McLachlan, G, *A Question of Quality?* London, Nuffield Provincial Hospitals Trust Oxford University Press, 1976.
- ¹⁵ Drummond, M F (1977), *Economic Evaluation in Health Care—a Guide for Non-economists*. To be published in 1978.
- ¹⁶ Havard, C W H, and Pearson, R M, *Prescriber's Journal*, 1977, **17**, 94.
- ¹⁷ Klarman, H E, Francis, J O' S, and Rosenthal, G D, *Medical Care*, 1968, **6**, 48.
- ¹⁸ Maxwell, R, *Health Care—the Growing Dilemma*, 2nd edn. New York, McKinsey, 1976.
- ¹⁹ Klarman, H E, *Daedalus*, 1977, **1**, 215.
- ²⁰ Eisenberg, L, *Daedalus*, 1977, **1**, 235.
- ²¹ Webster, C, *The Great Instauration—Science, Medicine and Reform, 1626–1660*. London, Duckworth, 1975.
- ²² Keele, K D, *William Harvey: the Man, the Physician and the Scientist*. London, Nelson, 1965.
- ²³ Pickering, G W, *Proceedings of the Royal Society of Medicine*, 1977, **70**, 16.

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Prostaglandin-induced abortion and outcome of subsequent pregnancies: a prospective controlled study

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Summary

We analysed a prospective series of 204 pregnancies occurring in 168 women after a prostaglandin-induced abortion. The mean ($\pm$ standard error of mean) interval between abortion and first subsequent conception was 10.4 ± 0.6 months; no patient reported secondary subfertility.

Fifty-five of the subsequent pregnancies were terminated, 23 during the second trimester, again using prostaglandins. Of the 149 pregnancies not terminated, 127 were delivered at term, and 19 spontaneously aborted, seven during the second trimester; there was one missed

abortion and two ectopic pregnancies. Morbidity in the 127 term pregnancies was infrequent; spontaneous pre-term labour occurred in three patients, and four singleton infants weighed less than 2500 g at birth. There was no apparent association between morbidity in the subsequent pregnancies and the period of gestation at the time of the previous abortion, route of prostaglandin administration, or need for post-abortion curettage.

The results obtained overall were very similar to a control group of 612 women consecutively admitted for delivery or abortion to the Oxford obstetrical and gynaecological units. There was, however, an increased incidence of spontaneous abortion and placenta praevia after prostaglandin-induced abortion, and the multi-gravidae in that group had a longer average duration of labour than the control group. Sixty-five per cent of the post-abortion pregnancies were unplanned compared with 36% of the control group.

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Introduction

The annual number of therapeutic abortions performed in England and Wales reached a peak in 1973 and has since declined¹; the number of abortions performed during the second trimester has proportionately fallen since the Abortion Act