Presidential Address

Better a commitment to health and research than to missiles

CHRISTOPHER BOOTH

I wish first to thank the association for the honour that you do to me, and to the Medical Research Council whom I serve, in electing me as your president during the forthcoming year. Honour may be, as John Dryden put it, "an empty bubble." Pleasure, however, is something else and it is for me a particular pleasure to be elected as your president on this occasion for we are meeting in Yorkshire, the loveliest of English counties. There are Yorkshiremen, like Texans, who boast about the size of their county, claiming proudly that the three ridings contain more acres than there are letters in the Bible. Some are even prepared to include the Apocrypha, but since Yorkshire in fact contains 3 897 940 acres and the Bible has only 3 566 480 letters it seems likely that the county could accommodate the Apocrypha quite comfortably. Yorkshiremen are also intensely loyal to their areas of natural beauty and you are wise not to question the enchantment of the countryside of the Yorkshire Dales or of the moors to the north of here. If you do you are impugning Holy Writ.

This association has always been interested not only in promoting the highest standards of medical practice but also in encouraging research. When Sir Charles Hastings gave his Worcester address on the occasion of the founding in 1832 of our predecessor body, the Provincial Medical and Surgical Association, he clearly envisaged that the association would be "destined to exercise no inconsiderable influence on the future progress of medical science." He himself had gained a reputation for his research on the functions of nerves and on blood vessels and inflammation. The provincial practitioners of that era also had before them the shining example of that country practitioner, Edward Jenner, whose work of course in the late eighteenth century led to the total eradication of smallpox nearly two hundred years later. In our own time Pickles's research work in Wensleydale has been an example of what the dedicated and

motivated general practitioner can achieve in the world of research. Many presidents of this association of the past have been distinguished medical scientists and I must confess to feeling somewhat daunted to be following in their footsteps. It is, however, an opportunity for me to speak for the community of academics who belong to the BMA as well as for those who do not and who are so well supported by this association. And I would like on behalf of all academics to thank the council, the chairman of council, and the secretary most warmly for the great support they have given to academic staff, particularly during the past year.

This year is the first occasion on which you have elected as your president a physician who works full time for the Medical Research Council (MRC). This is a privilege that the modern generation owes to the efforts of Sir Thomas Lewis. Lewis, of course, was a Welshman, but he worked all his life in London, no doubt following W H Auden's advice, "What's the good of going to Wales?" Lewis was the first full time clinical research worker to be recruited, in 1916, to the council's service and throughout his life he worked tirelessly to persuade the MRC to create opportunities, such as he had had, for young clinicians to work full time in research. In 1930 he published in the *British Medical Journal* his "Observations on research in medicine: its position and its needs," and he argued powerfully that clinical science at that time urgently required the establishment of posts for research physicians. The Medical Research Council was persuaded and the journal strongly supported them both, arguing in an important leading article that "those who have at heart the progress of medicine in Britain" should support the establishment of posts specifically for research physicians. It was during the 1930s that the MRC provided the resources for creating a limited number of such posts and a former president of this association, Sir George Pickering, obtained his initial training in research while holding such a post with Sir Thomas Lewis. In the period after the war further units were established and posts established in them and in recent years the council has set up its own Clinical Research Centre, staffed by full time clinical and scientific research workers at Northwick Park.

You will perhaps forgive me if I say something in this address about the subject that has occupied my attention for most of my professional career, namely, medical research and the education of

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teachers and research workers. Medical research at present, and particularly clinical research, faces a crisis. It is a crisis that is to a large extent economic, but not entirely so for there are other problems. There has always been a conflict of interest between basic science on the one hand and clinical and applied research on the other, and at a time of constrained resources this conflict is exacerbated. It is in fact a sterile debate. As Pasteur put it: "Il n'existe pas des sciences appliquées, mais seulement les applications de la science." At the same time, however, the new developments in biological science are dramatically changing the ways in which successful clinical research can be carried out, and this has created strains for staff who are reluctant to rethink or retrain. There is also pressure, not entirely unjustified, to ensure that research is relevant to the nation's problems. And an important fact then appears, sadly, to have been a significant change of attitudes to research among the young.

Lack of suitable candidates

Resources for research have undoubtedly been declining in this country and so far as the MRC is concerned there is evidence that support for clinical research has been particularly hard hit. The recent closure of several units with an interest in clinical research, such as those in Leeds and Manchester, however, was due to a lack of suitably qualified clinical research personnel and not to financial stringency. The national deficiency in such individuals, particularly in surgery or obstetrics and gynaecology, is a reflection of a national educational failure. It reflects the problems of training and career structure faced by would be clinical research workers at this time.

Recently, however, it has been the progressive erosion of support for the universities, as a result of deliberate government policy, that has caused the most serious problems. By 1990, if present policies continue, it has been estimated that the universities will have suffered a 30% cut in real terms in a decade. This is a disastrous position, a total rejection of the views of a previous Tory prime minister, Benjamin Disraeli: "Upon the education of the people of this country," he stated, "the future of this country depends. I am sure that is something we all now agree with." The government's policies are having a major impact on medical schools at present and murmurings about closures are already being heard. These are matters that should greatly concern all members of this association for we all share a loyalty to our medical school and to the teachers who guided our first faltering footsteps in our profession. Some of us are in serious danger of losing our alma maters. University clinical staff, with their undue responsibility for teaching and clinical care in our medical schools, must give priority to these activities and the swingeing reductions in academic staff which have taken place nationwide, and to which this association's Medical Academic Staff Committee has forcibly drawn attention, are unquestionably leading to a reduction in the amount of time and energy that can be devoted to research. There is evidence in Britain that this is being reflected by a reduction not just in morale but also in requests to the MRC for support for clinical research, particularly from the young and from new recruits. The university, as a place of "light, liberty and learning," to use Disraeli's phrase, is increasingly under attack. One sometimes wonders what the government is up to—perhaps "they only do it to annoy because they know it teases."

Research in our universities and medical schools is crucially dependent on support from the MRC, as well as that so generously provided by the public through the medical charities. In addition to the cumulative attrition to which the universities are being subjected at present there has at the same time been a progressive erosion of the MRC's resources. The council has passed from a growth period to one of level funding and now to an era of reduced funding within the past five years. This of course has been a reflection of the government's reluctance to support science in Britain as effectively as is necessary to maintain the country's scientific position in an increasingly competitive world. The Save British Science Campaign has dramatically highlighted the government's shortcomings, particularly in relation to the shrinking

support for basic science. There is no doubt about the current unease afflicting the scientific community in this country. Within a few weeks of its foundation the Save British Science Campaign attracted the support of 1500 scientists, of whom 50 were fellows of the Royal Society and eight were Nobel laureates. As in the NHS the limited resources available do not always seem to reach those who need them. The present government reminds me of the March Hare. "Have some wine," he told Alice. She looked all round the table but there was nothing on it but tea. "I don't see any wine," she said. "There isn't any," said the March Hare."

Strong public support for research

The significant feature of the erosion of government research support, which is a reflection of an overall government commitment to reduce public spending so that taxes may be reduced, is that it is probably not what the public wants, specifically in respect to medical research. The charitable sector of medical research funding is increasing every year, suggesting that the average citizen is favourably disposed to medical research. The British system, however, incorporates the funding of medical research within an overall budget for science, which is allocated by the Secretary of State for Education and Science. An academic committee, somewhat comparable to the University Grants Committee, then carves the budget up among the various national research councils, which include the MRC. This system effectively insulates the medical research budget from political pressure, and means that the public will have no way of affecting, through parliament, the funding of medical research. The lobbying of members of parliament, for example, might conceivably result in an increase in scientific funding overall, but there would be no guarantee that the anonymous body of academics that carves up the research cake for the Secretary of State would channel such an increase of funding into medical research, and no further guarantee that the MRC would then devote that money to clinical research. This is particularly galling at a time when the prospects for clinical research have never been so challenging or exciting. It must, in fact, be questioned whether the national budget for medical research is best safeguarded by its incorporation in an overall budget for science, when, as an independent medical entity, it might enjoy parliamentary support that would better reflect the national will. These may well be, to use Tom Paine's words, "the times to try men's souls"—they are certainly times when we should heed Francis Bacon's advice on the distinction between wisdom and cunning.

"Nothing doth more hurt in a state," he wrote, "than that cunning man pass for wise."

Not all is gloom, however. The medical charities cannot in any way replace the government's responsibilities for the support of research, but it is clear that the total amount of money now given to research by the charitable sector continues to increase and the Office of Health Economics expects its resources soon to exceed those available to the MRC. The Imperial Cancer Research Fund, the British Heart Foundation, the Cancer Research Campaign, Leukaemia Research Fund, and a host of other charities are all of crucial importance to the health of medical research at a time of progressive government disinterest. The Wellcome Trust, its budget recently increased by the release of a proportion of its shares in the Wellcome Pharmaceutical Company to the open market, has provided vitally important support to our universities and medical schools during the recent period of severe retrenchment. Without the trust's imaginative schemes for the support of clinical research fellows, senior lectureships, special awards to prevent individuals joining the "brain drain," and linked appointments for basic scientists working in clinical departments, the position in the medical schools today would be nothing short of disastrous. As the director of the trust has recently pointed out: "A flexible, relaxed, helpful body is of great importance to those who seek funds." The Wellcome Trust has provided just that to a whole generation of research workers.

MRC needs additional resources

So far as government support for research is concerned, however, the MRC unquestionably requires additional resources. Where are they to come from? The inescapable conclusion is that the government should reconsider its priorities. Government support for defence research projects accounts for as much as half of United Kingdom expenditure on research—vastly greater than the 10% figure for Germany or 33% for France. This is clearly an intolerable position for a European island, no longer a great power, off the north coast of a great continent. As members of a noble profession whose work depends on research we must persuade our legislators to change their policies. Scrutator, writing in the association's journal, takes the academics to task for not being more passionate about it all. Perhaps, though, "we rather bear these ills we have than fly to others that we know not of. Thus conscience doth make cowards of us all."

Let us now turn to a consideration of what the MRC actually does with its money. The MRC has not always got things right throughout its history. It was parsimonious in its dealings with Howard Florey in the development of penicillin and it did not want to be involved in the reproductive technology introduced by Steptoe and Edwards. Perhaps the council members of that time had been put off by Aldous Huxley's account of Bokanovsky's process and Podsnap's technique in *Brave New World*. But I do believe that through the years the British public has had good value for the money that has been invested in the MRC. It has great achievements to its credit. It is a national institution whose high international reputation is fully deserved and of which the nation should be proud. The council awards project and programme grants to the staff of university clinical departments, and this has been the backbone of MRC support for clinical research in this country. It is this form of support that has been significantly curtailed in the past two to three years. At the same time the council provides support in universities to exceptional individuals by giving them their own unit, Professor David Weatherall's Unit for Molecular Haematology in Oxford being an example, and the staff is then appointed and paid by the MRC. The council has also sought to encourage research in general practice, the work of the MRC's recently reported hypertension trial having been predominantly carried out in many general practices throughout the land. I hope, as does my colleague Tom Meade, that the council will continue to encourage this type of work. In addition, the council may choose to support research in its own institutes and laboratories, such as the National Institute for Medical Research at Mill Hill and the outstanding

Laboratories for Molecular Biology in Cambridge, which have been so remarkably successful in winning Nobel prizes. Nor has clinical research lacked council support, despite repeated claims to the contrary.

It is to Sir Thomas Lewis's vision that the modern generation owes the establishment by the MRC of its own centre for clinical research at Northwick Park. In 1929 Lewis first suggested to Sir Walter Fletcher, then secretary of the MRC, that they should set up an institute for clinical research. He expressed the firm view that it should be an institute "within which the workers may be free from the distractions presented by the petty and mainly diagnostic problems of diverse and obscure cases [which at that time formed the major caseload at teaching hospitals in London] and in which they can settle down to a more profound and uninterrupted study of the natural history of selected diseases." It is precisely the opportunity to do this that the MRC, stimulated predominantly by Sir Harold Himsworth when he was secretary to the council, has established in its Clinical Research Centre at Northwick Park. The multidisciplinary model of clinical research that the council has uniquely developed at Northwick Park and where there is close association between different research groups must at all costs be preserved for future generations, particularly now when we live in an era of research that has never been so challenging. In the coming decades it is possible that gene therapy may become a reality and there is no doubt that genetic disease will be preventable on a significant and wide scale. We may well also begin to unravel the biology of the brain in chronic mental illness. We shall certainly witness the introduction of effective treatment for viral infections. There is no reason why hepatitis and measles should not be eradicated and we shall increasingly know what motivates a cancer cell. In addition, we may well understand how to prevent coronary artery disease. But we must always remember in words written a century and a half ago: "In research the horizon recedes as we advance . . . and research is always incomplete." In some senses the research worker is constantly in search of the Holy Grail, but, mercy be, now and again he finds it.

Wider spectrum of clinical research

There is, in my view, little doubt that the spectrum of clinical research in this country is undoubtedly wider than it was 25 years ago. Clinical research in many medical schools has immeasurably improved and I believe that it is also more relevant than used to be the case. Clinical research has been greatly extended to include subjects such as epidemiology, community medicine, psychiatric disease, general practice, and so on, to say nothing of the importance of molecular and cell biology in the modern era. I firmly believe that British clinical research, in all its variety, now enjoys a high reputation both in Western Europe and in the United States, where it is generally thought to represent in terms of achievement per pound spent excellent value for money. So why is it that among academics in traditional clinical subjects in this country there seems to be a general spirit of gloom and depression about the current state of affairs, a situation lucidly set out by a professor of medicine in an article in the *Lancet* last month? Perhaps they believe with the poet that "Nothing's so dainty sweet as lovely melancholy." But there is more to it than that. The medical academic community in this country, which has led the world in so many ways, does not want to be relegated to the fourth division at a time when opportunities have never been so exciting, the tools provided by basic science so powerful, nor the challenges of human suffering so much in need of the application of the scientific method. University departments have been hard hit by the swingeing cuts in support for our universities, to which I have already referred. There are also economic problems that have resulted from the financial disparity that has developed between medical teachers and their counterparts who work for the National Health Service. One of the major constraints to the recruitment of young clinicians to research has been the introduction with the best of intentions of the system of extraduty payments for junior clinical staff in the NHS. The scientist trainee cannot claim extraduty payments from the

university or research council for the time spent doing laboratory work or writing papers into the small hours. At senior level a similar disparity in remuneration between teaching staff and NHS consultant staff has also been created, for NHS staff working full time are now permitted to do limited private practice for their personal gain. And while Dr Johnson reminds us that there are few ways in which a man can be more innocently employed than in the getting of money, the Bible warns that the love of money is the root of all evil.

New breed of clinician investigator

There is also the problem of training. In a previous generation the clinical investigator who had had a firm grounding in physiology as a medical student could decide to attack a problem in clinical physiology and simply get going. He now requires further training at postgraduate level not only in research techniques but also in new subjects, and this has to be undertaken as well as postgraduate training in his chosen clinical discipline. He then has to follow that uncertain road that lies between studies of laboratory animals on the one hand and the more lucrative pastures of clinical and private practice on the other. He has to learn to be sufficiently thick skinned to pay scant attention to the views of scientists who say that he is not a proper scientist and to those of his clinical colleagues who say that he is not a proper clinician. To undertake postgraduate clinical training to the level required for the acquisition of specialist registration, to do an MSc or PhD degree, in addition to post-doctoral work often overseas in a laboratory of basic science for some years, that is the sort of career that the new breed of clinician investigator has to follow. It is a daunting prospect for our young people and only the most dedicated are now succeeding. For all of these reasons it is vitally important that we ensure, firstly, that there are adequate training posts in clinical subjects for academic staff and, secondly, that such staff can see a satisfactory career in front of them. At a time when manpower constraints are becoming increasingly important this association clearly has a deep interest not only in ensuring that young doctors working in the NHS have a reasonable career structure—and they need it badly—but also that there are sufficient training posts available for academic staff. Such posts are not, as some have put it, a back door to consultant status. They are of vital importance to the training of the profession's teachers and research workers of the future.

There have been, however, influences other than finance, training, and career structure which have been at work in recent years to inhibit the investigative zeal of the young. It is unlikely that there has been any reduction in the overall ability of medical students in this field because I do not think that the inquiring spirit of the human mind is likely to vary from one generation to another. It is more likely that in terms of the recruitment of young clinician scientists it is environmental influences rather than inherent ability that determines attitudes. Perhaps one of the most important of these through the years has been the attack on elitism. Science is associated with an élite, elitism is incompatible with egalitarianism. In an egalitarian society, therefore, science is suspect. For this and other reasons science has been attacked, particularly following the development of nuclear weapons, and populists have at the same time sown a deep distrust of scientists in the public mind. This has been paralleled by assaults on scientific medicine by writers such as Ivan Illich, by that Reith lecturer for 1980, Ian Kennedy, as well as by doctors themselves. The writings of the epidemiologist, Tom McKeown, have also been influential in showing that too much credit may have been given in the past to advances in medical science, when in fact social change was more important in influencing declining mortality rates. McKeown might now reflect that, by contrast, it is that same social change that has been responsible for the current epidemic of sexually transmitted disease and the tragedy of the acquired immune deficiency syndrome (AIDS), a condition to whose control only science can effectively contribute. There are others who have attacked clinical investigation as unethical, and Pappworth, in a book entitled *Human Guinea Pigs*, castigated clinical research workers for carrying out dangerous and callous investigations on patients without their consent. Modern tech-

nology has also been under attack. Doctors are portrayed as clinical Dr Strangeloves and medicine has been represented as unfeeling, losing sight of the needs of the suffering individual. Undoubtedly, we have been passing through a phase where some of these criticisms have rubbed off on young medical students and there has been a feeling among them that relevance is all important—the desire to cure and care more praiseworthy than to investigate.

So what of the future? "There are many events in the womb of time to be delivered." But for the moment we need to ensure that young people in medical school are encouraged to the view that research is not only interesting and intellectually satisfying but also that it is vital to the future of the practice of medicine. Our research must not, as the late Lord Platt once complained, simply be an absorbing hobby. It must be relevant to important and common problems of human suffering, so that we give no reason for poets to write, as A P Herbert did:

I love the doctors, they are dears,
But must they spend such years and years
Investigating such a lot
Of illnesses that no one's got?

We clearly need more cash to support better training facilities for young men and women entering research, better staffing levels in university departments, better and more modern equipment. Finally, and most important of all, we must persuade our legislators that health and research into ways of relieving human suffering are infinitely more deserving of the nation's resources than the endless commitment to missiles, the military, and the melancholy prospect of nuclear war.

A woman aged 29 has always feared hospitals, doctors, and nurses. She does not fear the pain, discomfort, investigations, etc, but the power that doctors and nurses have over her. She realises that this fear is unreasonable and yet finds it impossible to overcome. What treatment would you advise?

This woman's phobia would be best treated with exposure in vivo. More information would be required about the precise nature of what provokes the anxiety—are particular hospitals, departments, or specialty of doctor or nurse more frightening than others? Which aspect of medical appointments produce fear—the waiting room, the consultation, or aspects of the examination? Once a full profile of fear evoking situations has been produced the patient should be asked to arrange them in a rough hierarchy from the most to the least frightening. The principle of exposure in vivo is that through prolonged and repeated confrontation with the feared and avoided phobic situation the anxiety experienced habituates both during treatment sessions and from one session to the next. Although there is now good evidence that self exposure alone is effective in treating phobias,¹ it might be best with this particular patient to undertake, at least initially, weekly therapist aided sessions. The therapist should explain the rationale of exposure and the principles of habituation, and the patient should then be asked to select a situation or item from somewhere near the middle of the hierarchy for the first treatment session. If, for example, the patient agreed to enter a hospital waiting room in the first session the therapist would stay with her and encourage her to remain there for at least one hour or until her anxiety had reached tolerable levels, whichever was the longer. The therapist would encourage her to concentrate on where she was and what she was doing. Between therapist aided sessions it is vital for the patient to practise tasks such as homework, preferably for two hours daily. In subsequent sessions she should be encouraged to confront the most feared situations as soon as she is able to tolerate them. Provided that her phobia is not associated with a severe depressive illness and she complies with therapy this patient should completely overcome her exaggerated fears.—P LELLIOTT, honorary senior registrar, London.

¹ Ghosh A, Marks IM, Carr AC. Controlled study of self-exposure treatment for phobics: preliminary communication. *J R Soc Med* 1984;77:483-7.

Correction

Consultation skills of young doctors

We regret that the full address of Professor Charles Fletcher was left out of this article (14 June, p 1573). He can be contacted at 24 West Square, London SE11 4SN.