James Scott: next professor of medicine at the Hammersmith

Richard Smith

James Scott starts his new job as professor of medicine at the Royal Postgraduate Medical School next month. Trained at the London Medical School, Professor Scott worked first in Hereford and contemplated becoming a general practitioner before doing postgraduate training in medicine in Birmingham. In 1975 he decided that he wanted to train in molecular biology and—after doing more medicine at the Royal Free Hospital and the Hammersmith—he went in 1980 to work in the department of biochemistry in the University of California San Francisco. After working on growth factors he switched to working on the regulation of blood cholesterol as it was becoming obvious that cholesterol was an important risk factor for heart disease. This work was done at the Clinical Research Centre, and his work has been important not only medically but also scientifically: his team, for instance, discovered that messenger RNA can be edited. His team of 35 people will move to the Hammersmith with him.

RS: What are your plans for the Hammersmith?

JS: I want to concentrate on what the department of medicine is famous for—that is, the training of doctors in academic medicine. Research in clinical and basic science will be part of that, and I want to build on the international reputation of the department. It has a wonderful national reputation, but I wonder how internationally competitive it really is.

RS: How will you make the Hammersmith more internationally competitive?

JS: The only way is by bringing more basic science on to the site and into the academic medical programme. Of major importance will be some key appointments, particularly the new Medical Research Council director, who will cover all of the MRC units on the site, including those associated with the new clinical research initiative.

I will be helping to fill the many posts that will be coming up for renewal at the Hammersmith. As well as the new director's post there will be the chairs in cardiovascular medicine and chemical pathology. The latter is likely to become a new chair of biochemistry. In addition, new people will be needed over the next few years for the chairs of anaesthetics, virology, and immunology. There are thus major opportunities for change throughout the school.

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I'm sure too that it will be important to bring basic scientists into the department of medicine—scientists without a medical degree. And those scientists need a career structure—so there may need to be joint appointments in medicine and, say, biochemistry.

We will then need to develop the strengths within medicine at the Hammersmith. Clearly molecular genetics will be one and so will inflammatory disease including arteriosclerosis. Others will be renal disease,

James Scott, physician and biochemist—bringing basic science into medicine

rheumatic disease, and diabetic retinopathy. In other words, we will be building on existing strengths.

Hammersmith and international research

RS: Would you like to see more foreign scientists coming to the Hammersmith?

JS: I would, and the more that the Hammersmith is seen as a place publishing high quality research—both scientific and clinical—in the top peer reviewed journals then the more it will attract people from abroad.

RS: Do you think that researchers will come, for instance, from America? Might we see more Jim Watsons [the American Nobel laureate who with Francis Crick discovered the double helix while working in Britain]?

JS: Very few, because we just don't have the highest quality basic research, unlike the Laboratory of Molecular Biology, the Imperial Cancer Research Fund, and Mill Hill. The Oxford Molecular Medicine Institute is a good model. I'd like to see the Hammersmith move in that direction.

RS: Do you see more opportunities for links with Europe than America?

JS: There are obviously going to be great opportunities in Europe over the next few years, but there is an awful lot of squabbling in the scientific community in Europe. And the United States is still the place where most of the best work is done. The Americans are

terribly professional in their work, and I recommend anybody who trains with me to spend time in the States—and see what it's like to compete in the real world rather than our own rather parochial world. They then come back, having learnt what some people call "the killer instinct."

More basic science in medical research

RS: Do you have a stronger background in basic science than your predecessors?

JS: Yes, but times have, of course, changed dramatically in the past 10 years with the flowering of basic biological research—particularly recombinant DNA technology. The time was ripe to bring in basic science. In Britain we have been very slow to do that.

RS: Are we too late?

JS: No, but we do need to do it now. The Americans have moved much more quickly.

RS: Will the new MRC director be a basic scientist?

JS: I think that he or she will have to be, which probably means that he or she will not be clinically qualified.

RS: Yet this person will direct the clinical research initiative?

JS: Yes, but this reflects how medical research has moved towards basic biological science. That's why it's important to have a counterpoise of a clinically trained professor of medicine.

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RS: Couldn't you do both jobs?

JS: It would be a hard job. The professor of medicine is responsible for training the junior doctors at a time when that is not easy.

RS: So now will you be concentrating more on education?

JS: Yes.

Developing training

RS: Are you interested to train people like yourself who are competent in medicine and basic science?

JS: Ultimately, but we need all kinds—people working in basic science right through to people doing health services research. But it is difficult to be competent in both medicine and basic science. After I'd spent three years in the States and three and a half years in a lab at the Hammersmith I was only just getting going: it takes as long to train in basic science as it does to be a physician. And that's the dilemma. It can't take 15 years. We have to try to find a way of smoothing the way, which means some sort of special academic accreditation. That is why we need a dialogue with the Royal College of Physicians.

RS: Is the college sympathetic?

JS: Not wholly. There is a view that people should spend seven or eight years getting their accreditation, which is not really compatible with doing basic science. I've done both, but it's taken me since 1971. And not everybody should be doing that. There should be a much more focused way of getting through to specialist accreditation.

In Britain we spend a long time in the training grades in general medicine and yet we have lamentably little

systematic training. In the US they go much more rapidly and have much better organised programmes.

The politics of science

RS: What else will you bring to the chair?

JS: Clinical and political experience. The past five years of trying to bring the MRC Clinical Research Centre to the Hammersmith site have been very interesting. I have been deeply involved in that process, and I have learnt a lot. I have seen what ministers and senior civil servants are like, and I have seen the possibility of influencing them in a positive way. And I think that that needs to happen in medical research and academic medicine as a whole. We do have this problem in our relationship with government.

RS: What do you mean? Always asking for more?

JS: Yes, precisely that. But more than that there is the problem that the government doesn't have a coherent policy towards medical research or basic science. We need such a policy, and we mustn't whinge but rather show government why science is so important—to the wealth as well as the health of the nation.

RS: So you see yourself operating a lot on a national stage?

JS: That's inevitable. That is one of the roles of the professor of medicine at the Hammersmith.

RS: How do you set about getting a coherent national strategy for science?

JS: There has got to be a dialogue between senior academics and government. Academics must make the right noises to influence government.

RS: I'm not so sure what you mean. Do you mean that after years of slugging it out with government the academics are coming round to working with government?

JS: I think so. I believe that academics now see a way forward to revitalise academic medicine and our scientific educational system. This must mean working with government.

RS: But how does it actually happen?

JS: It happens by setting examples. Those in academic medicine have to lead the way for government—to demonstrate the importance of sound science policy. I also think that we need a minister of science who emphasises the wealth as well as the health generating possibilities of science. He or she must deliver the message not just in the narrow near market sense but through creating an understanding that strong basic science is essential for new developments in health care and for the biotechnology and pharmaceutical industries. I'm happy to put it in those market terms because they are the most persuasive.

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RS: But right now things seem grim in academic medicine. For instance, medically qualified academics have had a tremendous struggle yet again this year to get parity with their NHS colleagues.

JS: Yes, but that's different. It is linked with medically qualified people being paid more than basic scientists—and I would like to see those scientists being paid much more. Indeed, it's essential. That brings us back to the low standing of science in Britain. That's another reason—along with the lack of a coherent science

policy by government—why we have so few people going into science and the droves of people going abroad and into the city. That's why many school leavers go into other professions.

RS: What can be done about that?

JS: Scientists must be paid more—ultimately status is linked to salary. Bodies like the Wellcome Foundation and the Imperial Cancer Research Fund have done that. The MRC does give awards for merit, but it is cash limited. One of the major reasons science needs better funding is to pay better basic scientific salaries.

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RS: But what about the standing of science in the community?

JS: Historically, we British don't appreciate our scientists, but it comes back to selling the product.

RS: How can you do that?

JS: One way is to publicise the very good job that we do and the remarkable things that British scientists have done over the past 15 to 20 years despite the difficult climate. And how some of these are very pertinent to your wellbeing and mine.

RS: And should scientists be doing this themselves?

JS: They should. Instead of whingeing we should point out what we are doing for heart disease, cancer, Alzheimer's disease, and mental illness—all areas where there have been major advances. People won't go into medical research unless they see it as a worthwhile career. Yet for scientific investigation these are remarkable times. Modern molecular genetics is like the exploration of space, only this time it's inner space: answering questions like how we are produced, how we work, and how we die.

Doctors, science, and the need for an academic voice

RS: What do you think of the average doctor's perception of science?

JS: I think we have problems. I have the impression that there is a fear of the basic sciences within medicine. Doctors have been slow to espouse the new technologies because they have been frightened by the possibility of being taken over by them, but I think that they now see that the new technologies will enhance the practice of medicine. There is now great excitement in the clinical community about using the new technologies in the practice of medicine. A similar revolution is taking place in the pharmaceutical community.

But because ordinary doctors are insufficiently positive about science through lack of knowledge about what science does for them, academics are being pushed into a corner—for instance, through the Joint Planning Advisory Committee reducing the number of registrars. *Achieving a Balance* smacks of trade unionism and collusion between government and doctors—and that is unhelpful. The registrar grade at the Hammersmith, which is under attack through JPAC, is not simply a stepping stone to a consultant post. Rather it is the period in which junior doctors get training in basic biological science. Without this, academic medicine and the pharmaceutical industry are dead in Britain. The Department of Health, the BMA, and the junior doctors do not realise how

damaging this destruction of the academic training grade will be to the nation.

I think that again the problem arises from a lack of insight into the importance of the science community. The academic body lacks a clear and coherent voice.

RS: How can the academic voice be heard louder and more clearly?

JS: I think that academia needs to get its house in order and speak out. There's a terrible tendency in Britain for things to happen behind closed doors.

RS: What sort of structure should there be to give academia a voice? Will it be the conference of colleges, the medical academic staff committee of the BMA, something else, or something completely new?

JS: I think that there needs to be a new structure that represents the colleges, the universities, and the BMA—one that addresses the peril facing the academic research community.

RS: We seem to have a lot of bodies without a clear voice.

JS: We seem to spend our time repeatedly reorganising our structure. Look how long it's taken to take decisions on the Clinical Research Centre and the Hammersmith. We have tremendous trouble taking decisions.

We need senior academics, the BMA, the heads of the colleges, and people from industry to come together and look at what medical research needs—and to lead the way. It is essential that we stop people draining away from medical research.

RS: How does all this fit with the plans of the new director of research and development in the NHS?

JS: That is, I think, one of the first glimmerings that the Department of Health is taking a much more proactive role in deciding how to bring basic research into clinical practice. I see the whole exercise very positively.

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RS: Will there be problems fitting the NHS initiative together with the MRC?

JS: I don't see why there should be any conflict—provided there is a dialogue. There is, however, a danger that department research funds will be frittered away. Doing academic research is difficult. It requires real professionalism. The same is true of training in academic medicine. It's not a job for amateurs, but it is a job for the Hammersmith.

The Hammersmith and the new NHS

RS: What about the flux in the NHS? Do you see that as a threat or an opportunity for the Hammersmith?

JS: I don't think that the Hammersmith—or, indeed, any of the special health authorities—should go for trust status. They could not compete. The Hammersmith tends to receive the difficult cases which are not cost effective. There is also the considerable load of teaching and training as well as research, a burden that could not be borne by a trust. The special health authority or a well considered equivalent has to be maintained for the Hammersmith to be viable.

RS: You are confident then that money will continue to be available to treat difficult cases and to teach and research?

JS: There are those in the Department of Health who would like to get rid of special health authorities, but I

cannot see that happening because they are an essential part of our educational fabric. The special health authorities are the nearest we have to the United States' National Institutes of Health. Their future cannot be judged in short term market terms.

RS: But might not the Hammersmith follow the model of some of the top hospitals in the United States and

charge a premium price for treating difficult cases from all over the country?

JS: It would mean having a very different structure, including having highly developed marketing and lots of private facilities. I can't see that being reasonable at the moment. In some respects the American health care systems have more problems than our own.

Medicine in Europe

Medical manpower

Stephen Brearley

Planning of medical manpower has been practised for decades in the United Kingdom. But this is not the case in many of its partners in the European Community (EC). Control of medical student numbers in line with the expected demand for doctors occurs in, at most, two other EC states (box) but in most of the rest there has been a substantial overproduction of doctors, which has led to considerable, and in some cases catastrophic, medical unemployment.

Determination of medical student numbers

Numerus clausus* related to manpower needs	Denmark United Kingdom (Finland) (Iceland) (Norway) (Sweden)
Numerus clausus* related to educational capacity of medical schools	Germany Ireland Netherlands Spain (Austria) (Switzerland)
Other control mechanism	Belgium France
No effective control	Greece Italy
No medical school	Luxembourg

*Limitation of the number of medical school places.

This is a matter of concern to British doctors for two reasons. Firstly, as a member of the European Community, the United Kingdom has implemented its medical directives, which give all doctors who are nationals of community countries and hold medical qualifications granted in those countries the right to practise anywhere in the community. Over 1000 such doctors are now coming to the United Kingdom each year, something that was not foreseen when medical manpower was last scrutinised. Secondly, as a partner in the medical community of Europe, the United Kingdom has an interest in standards of training and practice throughout the EC and these are inevitably jeopardised where student and trainee numbers are excessive and many doctors have insufficient work.

To a greater or lesser degree these concerns are shared by all the medical associations in the EC. They were set out by the EC's standing committee of doctors in its 1985 Cannes declaration, which called for urgent measures to establish manpower planning machinery in all member states. In practice, the liberal constitutions adopted by several states after the second world war make the introduction of such measures

difficult as they would infringe the guaranteed right of citizens to higher education. In general, medical manpower planning does not figure highly among the priorities of national governments or the European Commission, and in the past 10 years only one country, France, has made a serious attempt to reduce its overproduction of doctors.

This ambivalence on the part of governments reflects the nature of most of the health care systems in Europe. Whereas the British government is a virtual monopoly employer of doctors and controls the number of posts available, most European doctors are in free practice, recouping their fees through a social security system. Any appropriately qualified doctor can set up a practice and so there is no fixed number of medical jobs. In such a system the demand for doctors cannot be measured and the supply tends to be left to market forces. This laissez faire approach has led to a trebling in the number of doctors in the 12 EC countries since the early 1950s.

Inexact data

Where medical manpower planning is not practised reliable manpower data tend not to be collected. All data on manpower are therefore inexact, and such data as are available need to be interpreted with caution. National registers of doctors, such as that maintained by the General Medical Council, may not include retired doctors, unemployed doctors, or those who are not working for a variety of other reasons. Government data may relate only to doctors working in government funded posts or registered with the social security system. Even the definition of a doctor is variable. French internes are still technically students until they obtain their MD by thesis, usually three or four years after beginning their postgraduate training.

Several bodies have investigated EC medical manpower: the Statistical Office of the European Communities (1984), the Standing Committee of Doctors of the EC (1988), and the Permanent Working Group of European Junior Hospital Doctors (1991). The permanent working group's study, reported at a Symposium in Florence in October but so far unpublished, is the most comprehensive to date. A synopsis is given in table I.

No one knows how many doctors there are in Italy and Greece. No distinction was made between doctors and dentists in Italy until recently. There is practically no limit on the numbers admitted to medical school and, of those who obtain medical degrees, a considerable number never find medical work. Greece has a numerus clausus (a limit on the number of medical school places) but many of the Greeks who obtain a medical degree bypass it by going abroad to begin their studies, usually in eastern Europe or Italy. They

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