Chief Executive of the Medical Research Council : introductory hearing : second report of session 2003-04 : report, together with formal minutes, oral and written evidence / House of Commons, Science and Technology Committee.

House of Commons

Science and Technology Committee

Chief Executive of the Medical Research Council: Introductory Hearing

Second Report of Session 2003–04

HC 55

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The Science and Technology Committee

The Science and Technology Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Office of Science and Technology and its associated public bodies

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Committee staff

The current staff of the Committee are, Chris Shaw (Clerk), Emily Commander (Second Clerk), Alun Roberts (Committee Specialist); Ana Ferreira (Committee Assistant) and Christine McGrane (Committee Secretary)

Contacts

All correspondence should be addressed to The Clerk of the Science and Technology Committee, Committee Office, 7 Millbank, London SW1P 3JA. The telephone number for general inquiries is: 020 7219 2794; the Committee's e-mail address is: scitechcom@parliament.uk

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Introduction

1. At the beginning of the Parliament we undertook, as one of our core tasks, "To scrutinise major appointments made by the Secretary of State for Trade and Industry" within our remit.[1] This is in line with a recommendation from the Select Committee on Modernisation of the House of Commons "to consider, and if appropriate report on, major appointments by a Secretary of State or other senior ministers".[2] We envisaged that this would take the form of a single evidence session with new incumbents a few months after taking up the post. The sessions are intended to be analogous to the Congressional confirmation hearings in the United States, although we have no power to ratify or veto any appointment. Our purpose is to satisfy Parliament that the post has been filled with someone of sufficient calibre, establish the views and principles that he or she brings to the job, to alert them to our interests and concerns and to heighten awareness of our role in scrutinising each individual's performance and that of their divisions or organisations.

2. So far we have held three such sessions. The first two were on 22 and 29 January 2003, with Professor Ian Diamond, Chief Executive of the Economic and Social Research Council, and Mr David Hughes, Director General of Innovation at the Department of Trade and Industry, respectively. In these cases we published the transcripts without comment.[3] On 8 December 2003, we held an evidence session with Professor Colin Blakemore, who became Chief Executive of the Medical Research Council (MRC) on 1 October 2003. In this case some of the issues raised during the session warranted commentary and we are publishing this Report as a result. We did not issue a call for evidence in advance of the evidence session. However, we did request a personal statement from Professor Blakemore on his thoughts on a range of issues, to use as a basis for oral questioning. This has been published with this Report, alongside the transcript of the session.

3. In March 2003 we published a Report on *The Work of the Medical Research Council*, which included serious criticisms of the MRC's administration and policies.[4] Some of these are listed in Table 1. This Report is not intended as a follow-up, although our questioning of Professor Blakemore was inevitably coloured by concerns we have had over the MRC's conduct.

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1 Second Report of the Science and Technology Committee, Session 200203, *Annual Report 2002*, HC 260, Annex A: List of Committee Objectives

2 First Report of the Select Committee on Modernisation of the House of Commons, Session 2001–02, *Select Committees*, HC 224-i, para 34

3 Minutes of Evidence for Wednesday 22 January 2003, ESRC Introductory Session, Professor Ian Diamond, Chief Executive, Economic and Social Research Council, HC 277-i; Minutes of Evidence for Wednesday 29 January 2003, DTI Introductory Session, Mr David Hughes, Director General, Innovation Group, and Dr Alistair Keddie, Director, Technical Innovation and Sustainable Development, Department of Trade and Industry, HC 278-i

4 Third Report of the Science and Technology Committee, Session 2002–03, The Work of the Medical Research Council, HC 132; Department of Trade and Industry, Government Response to "The work of the Medical Research Council" Report by the House of Commons Science and Technology Select Committee (HC 132), June 2003, Cm 5834

Table 1: Main criticisms made by the Committee of the Medical Research Council.

Poor financial planning had led to extreme fluctuations in the funds available for new grants. The MRC's explanations for the situation were inconsistent.
The MRC's cooperative group grant scheme, introduced at the expense of individual project grants, forced "marriages of convenience", limited access to funds for young researchers and was unsustainable with the current level of funding.
The MRC's communication with its community was poor.
The UK Biobank is a study involving 500,000 people attempting to link lifestyle, genetics and disease. It is jointly funded by the MRC, the Wellcome Trust and the Department of Health. The Committee concluded that it was an exciting initiative but it had concerns over the peer review process and the public consultation undertaken by the MRC.

Openness and communication

4. Some criticisms in our Report on the MRC related to the organisation's communication, both with the medical science community and ourselves. Professor Blakemore acknowledged this: "the MRC was not as transparent and open an organisation as it should have been; perhaps its tendency, even when discovering its own problems, was to cover them up and pretend they would go away. The MRC will be a different organisation in future in that respect".[5] He has a notable record as a communicator and we welcome this recognition of the MRC's problems and his commitment to change.

5. Since taking office, Professor Blakemore has been undertaking a series of roadshows in universities around the country.[6] This is a welcome exercise and an idea that other Research Council Chief Executives should consider. We were pleased to hear him indicate that this was not a one-off exercise.[7] We were also heartened to hear him reveal the positive reaction to change among MRC staff. There was a danger that change could have been seen as an implied criticism of their previous conduct and so resisted.[8]

6. Professor Blakemore has expressed regret that many scientists have felt unable to comment in public on the MRC's policies and administration.[9] It has been a concern of many who have communicated with us that this would compromise their chances of securing research grants. It would be a corruption of the peer review process if criticism prevented the funding of world-class science and we therefore welcome his comments. We shall watch with interest his progress in creating an environment in which the MRC's policies can be debated and challenged in public. A particular concern of ours relates to researchers employed in MRC institutes and centres. During our inquiry, a distinguished director of an MRC unit wrote to our Chairman with grave concerns about the Research Council's administration. He informed us that the terms of his contract prevented him from commenting in public on MRC policies. **If it is the case that MRC researchers are contractually unable to comment on aspects of MRC policy in public, we urge Professor**

5 Q 9

6 Ev 14

7 Q31

8 Q 4

9 *The Observer*, 14 September 3003, Scientist who stood up to terrorism and mob hate faces his toughest test; Q 32-33

Blakemore to signal publicly that any such breaches of contract will not result in disciplinary procedures and to remove the offending clause from future contracts.

Animal experimentation

7. Professor Blakemore is a vigorous defender of the use of animals in research despite being targeted by violent groups. He has been active in the Boyd Group, established to provide a forum for individuals and groups with an interest in animal experimentation.[10] Professor Blakemore's high profile in this area may have implications for the MRC. The MRC has been active in making the case for animal experimentation and in 1999 commissioned MORI to conduct an in depth survey of public attitudes to use of animals in medicine and science. This found that 84% accept experiments if the right conditions apply, such as that suffering is minimised, or the research is medical research, or addresses life-threatening disease.[11] Professor Blakemore's appointment will undoubtedly heighten the profile of the MRC's attempts to articulate the value of animals in research and could encourage other researchers to be more active in taking part in public debate. More damaging would be a greater focus by animal rights groups on the MRC and its research facilities, which could hamper its work. **We look forward to an invigorated public debate on animal experimentation. Opinion polls suggest that the public takes a pragmatic view but the nervousness of the scientific community about engaging in debate has allowed pressure groups to dictate the public agenda.**[12]

8. Animal research is a highly political issue. This has been demonstrated by the recent leaked memorandum concerning the honours system.[13] This indicated that Professor Blakemore had been passed over for an honour because of the public stand he has taken on animal experimentation. It is not our normal practice to comment on press reports but there are good reasons to believe that the leaked document is genuine. Lord Sainsbury, speaking on Radio 4's Today programme on 22 December 2002, said, "this does not represent in any way government policy—this is essentially a civil service process" and did not question the authenticity of the document.[14] It also formed the basis for an evidence session with Professor Blakemore held by the Public Administration Select Committee on 13 January as part of its inquiry into the Honours System. Professor Blakemore told the Committee that he had been reassured, although it is not clear by whom, that the views expressed in the leaked memorandum were those of a single person on the "science and technology committee" which provides input to the principal moderating committee.[15]

9. We await the Public Administration Select Committee's conclusions on the honours system with interest. However, we are more concerned with the effect that the release of this memorandum and the subsequent debate will have on the scientific community and the Government's attempts to encourage more researchers to explain in public the

10 Q 37

11 MORI, *Animals in Medicine and Science*, General Public Research Conducted for Medical Research Council, June–September 1999

12 Q 38

13 Sunday Times, 21 December 2003

14 *Today*, BBC Radio 4, 22 December 2003

15 Minutes of Evidence, Public Administration Select Committee, 13 January 2004, HC 212-i, Q 3; HL Deb, 12 January 2004, Cols 370-371

importance of research using animals. We recognise that animal experimenters have been honoured in the past. Brian Cass, Managing Director, Huntingdon Life Sciences received a CBE in the 2002 Queen's Birthday Honours for services to medical research, although Professor Blakemore believed that this was the result of the Prime Minister's direct intervention.[16] In addition, the Prime Minister told a meeting at the Royal Society on 23 May 2002 that, while he recognised the importance of such research, "We need … a robust, engaging dialogue with the public. We need to re-establish trust and confidence in the way that science can demonstrate new opportunities, and offer new solutions".[17] The Science and Innovation Minister, Lord Sainsbury, has made clear his support for Professor Blakemore, although branding it as a Civil Service process is not helpful.[18] Professor Blakemore has also indicated that he had received reassurances from Sir David King, the Chief Scientific Adviser, on the matter.[19] **Animal experimentation is highly regulated by Government and scientists conduct this research with the tacit approval of Parliament. A scientist who is bold enough to articulate publicly, and in Professor Blakemore's case so eloquently, why this should be the case should not be refused an honour for taking such a stance. The leaked memorandum undermines the Government's attempts to promote scientists' engagement in public debate. We welcome Lord Sainsbury's clear and unequivocal support for Professor Blakemore's position.**

Response to our Report

10. Professor Blakemore has assured us that he wishes to build up a new and positive relationship with the Committee, which we welcome. We consider our role to scrutinise, on behalf of the House, Government spending for the benefit of UK science and aim to conduct this as objectively as possible. We therefore regret Professor Blakemore's comments on the *Today* programme on Radio 4 on 8 December 2003, just hours before he came to give evidence to us. Commenting on our critical Report of the MRC, Professor Blakemore told the interviewer that we had "suggested that [Biobank] was draining money away from basic research grants" despite the fact that the MRC "has not even started spending money on it".[20] This is curious for two reasons. First, our Report made no such accusation. We noted that the sums were too small to have made any great impression on the availability of funds for new grants.[21] Second, the suggestion that spending on Biobank had created financial limits for new research grants *was contained in the written evidence supplied to us by the MRC.*[22] A robust defence of his organisation is perfectly acceptable but this should be based on an accurate portrayal of our published conclusions. Professor Blakemore's comments were all the more disappointing since many of his comments made after taking office have indicated a more conciliatory stance than his predecessor. **We understand Professor Blakemore's desire to defend the reputation of the MRC but he should not do this by misrepresenting our views and conclusions. He should focus his**

16 Minutes of Evidence, Public Administration Select Committee, 13 January 2004, HC 212-i, Q 28

17 Speech to The Royal Society 23 May 2002, "Science Matters"

18 *Today*, BBC Radio 4, 22 December 2003

19 Minutes of Evidence, Public Administration Select Committee, 13 January 2004, HC 212-i, Q 18

20 *Today*, Radio 4, 8 December 2003

21 Third Report of the Science and Technology Committee, Session 2002–03, *The Work of the Medical Research Council*, HC 132, Para 24

22 HC 132, Ev 37

energies on reforming the culture within an organisation which seemed unwilling or unable to provide accurate information to Parliament.

11. Professor Blakemore is fortunate in that he carries much goodwill with him into his new position.[23] This provides him with tremendous opportunities for positive reform and we have confidence that he has the ability to deliver. His media skills will enable him to heighten the profile of the MRC and articulate the benefits of medical research. We too welcome his appointment and are pleased that he did not carry out his threat to resign following the controversy surrounding his exclusion from the 2003 New Year's Honours List. We look forward to a productive relationship in the future.

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23 Q 5

Formal Minutes

Monday 19 January 2004

Members Present

Dr Ian Gibson, in the Chair

Paul Farrelly	Mr Tony McWalter
Dr Evan Harris	Geraldine Smith
Dr Brian Iddon	Bob Spink
Mr Robert Key	Dr Desmond Turner

The Committee deliberated.

Draft Report (The Chief Executive of the Medical Research Council: Introductory Hearing), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 11 read and agreed to.

Resolved, That the Report be the Second Report of the Committee to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That the provisions of Standing Order No. 134 (Select Committees (reports)) be applied to the Report.

[Adjourned till Wednesday 28 January at 10.00am.

Witness

Monday 8 December 2003 *Page*

Written Evidence

Reports from the Science and Technology Committee since 2001

Session 2003-04

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Session 2002–03

First Report	The Work of the Particle Physics and Astronomy Research Council *(Reply HC 507)*	HC 161
Second Report	Annual Report 2002	HC 260
Third Report	The Work of the Medical Research Council *(Reply Cm 5834)*	HC 132
Fourth Report	Towards a Non-Carbon Fuel Economy: Research, Development and Demonstration *(Reply HC 745)*	HC 55-I
Fifth Report	The Work of the Natural Environment Research Council *(Reply HC 1161)*	HC 674
Sixth Report	UK Science and Europe: Value for Money? *(Reply HC 1162)*	HC 386-I
Seventh Report	Light Pollution and Astronomy *(Reply HC 127, 2003-04)*	HC 747-I
Eighth Report	The Scientific Response to Terrorism *(Reply Cm 6108)*	HC 415-I
Ninth Report	The Work of the Engineering and Physical Sciences Research Council *(Reply HC 169, 2003-04)*	HC 936

Session 2001-02

First Report	Cancer Research – A Follow-Up *(Reply Cm 5532)*	HC 444
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Fifth Report	Government Funding of the Scientific Learned Societies *(Reply HC 53)*	HC 774-I
Sixth Report	National Endowment for Science, Technology and the Arts: A Follow-Up *(Reply HC 276)*	HC 1064
Seventh Report	The Office of Science and Technology: Scrutiny Report 2002 *(Reply HC 293)*	HC 860
Eight Report	Short-Term Research Contracts in Science and Engineering *(Reply HC 442)*	HC 1046

Oral Evidence

Taken before the Science and Technology Committee

on Monday 8 December 2003

Members present

Dr Ian Gibson, in the Chair

Dr Evan Harris
Mr Robert Key
Mr Tony McWalter
Geraldine Smith
Bob Spink
Dr Desmond Turner

Examination of Witness

Witness: **Professor Colin Blakemore**, Chief Executive, MRC, examined.

Q1 Chairman: Professor Blakemore, may I thank you very much for coming along today. It is our policy to talk to people who have just taken over a very senior position in organisations which have a big influence in science and technology in this country. We have some very serious questions we would like to ask you, and my first question is: This job, what was exciting about it? It took you away from your highflying research. You are not the typical type, I guess, who ends up at the MRC as Chief Executive. Or am I wrong?
Professor Blakemore: The four predecessors of whom I know had been very distinguished scientists, although perhaps the background from which they came was more on the direct side of MRC support, institutional support. Certainly my immediate predecessor, Sir George Radda, had directed an MRC unit for many years and was a very distinguished scientist.

Q2 Chairman: Did the MRC come looking for you? In all the bars in all the world were you there and waiting?
Professor Blakemore: I was certainly attracted by this post and found the possibility of working for the agency that had funded my research for all my research career a very exciting one. It was a post in which I was extremely interested and I was delighted to be offered it.

Q3 Chairman: You will know that we put out a very sharp report—and there will be more said about that later and interpretations of some of the things which we said. It is clear that Lord Sainsbury, the Minister of Science, said earlier this year, in April I think, that he had concerns about MRC's financial planning. Do you feel you could handle such a large budget? You must have had at least several thousands to handle in your time as a distinguished researcher, but here we are talking about £400 million. What kind of qualification did you feel in taking up this post you would have in that area?
Professor Blakemore: I had managed a department with an annual turnover of about £6 million. I think that for most mere mortals the difference between £6 million and £450 million is not that great: once you get above a few hundred thousand, the sorts of problems of management become similar. But, no, I have not had enormous experience. On the other hand, I have had the experience of being at the receiving end of the problems that the MRC had had and which to some extent were shared by the other research councils, so I was certainly sympathetic to the difficulties of managing large amounts of money, of balancing the needs of direct and indirect funding and dealing with the fact that money is allocated on an annual basis while commitments to expenditure are on a longer term basis.

Q4 Chairman: You have indicated that you want to institute some changes. You indicated that in various meetings and so on—and we will talk about that later. How has this been received by the staff, many of whom have been disgruntled? Not just a few, but many, many people throughout the MRC unit in this country have been disgruntled. How have they taken to your new broom approach?
Professor Blakemore: You speak of the MRC staff. I would distinguish three categories of equally important individuals, the people who work at head office—and it is obviously absolutely crucial that they should be behind any changes that are suggested—and they are 10%; the MRC staff who work in units and institutes; and the jobbing university researchers, like me, working at the bench, who sometimes benefit from the generosity of the MRC. I have to say that apart from, of course, having to deal with staff in head office and being delighted by their level of support, I have been concerned primarily with the academic research community in the universities, because I think they are the ones who have suffered most from the problems of the last few years. You probably know that I have been involved in a series of roadshow events around the country. We have done 13 out of 17 of those, visiting major universities which are research active, on a regional basis, asking them to involve other nearby campuses, not just for me to find out the strategic plans of UK universities in the biomedical area but most of all to hear from ordinary researchers, including a lot of young researchers, what their feelings are about the MRC and its future.

Q5 Chairman: Do you get the feeling that they are up for change?

Professor Blakemore: That, I think, Chairman, is an understatement. There is a great desire for change. But I was most impressed, I have to say, by the generosity of the reception that I received from those audiences. You talk about disgruntlement, and, yes, there was demoralisation and dissatisfaction, but at least temporarily, and I hope on a longer-term basis, there is a lot of goodwill. Expectation, perhaps, which has to be managed, but certainly goodwill.

Q6 Mr McWalter: Welcome, Professor Blakemore. I actually heard you this morning, at 6.45 on the *Today* programme, and I have to say that I dropped my toothbrush. You claimed on that programme that this Committee had made some very serious errors. Specifically, you claimed that we criticised the Medical Research Council for diverting funds to large projects such as Biobank. You went on to say that apparently the Government had made some kind of robust response to that criticism. Were you aware that the MRC itself said that the reason why there had been large fluctuations, between £206 million down to £59 million over a three-year period in new grants, was, first of all, because of "the commitment of funds for establishing the Mary Lyons centre" and that the MRC then changed its formulation of that and said on 2 December 2002 that the fluctuation was due to "the commitment of funds to the UK Biobank project and international appointments"? Biobank is £20 million over five years. That is not going to account remotely for nearly £150 million worth of difference in allocation between new grants. You are effectively accusing us of innumeracy and also crediting us with saying things that actually the MRC said to us, albeit in a varying and fluctuating way. Do you regret doing that? Do you think you are really rather badly briefed and that maybe you should change the people who brief you?

Professor Blakemore: Since one of my main hopes in attending this meeting today was that I could re-establish the relationship with this Committee—and that the MRC and I could work with you in the future—I would be very disappointed if that was your impression of what I wanted to convey this morning on the *Today* programme. I have not seen a transcript of what I said. If I said exactly that, then I do regret it. I believe I said that the Government had delivered a fairly robust response to this Committee's judgment and that I was in sympathy with the thrust of that response. I can understand the reasons for this Committee's concern; indeed, you articulated yourselves very well. Your concerns accurately reflected the perception of the MRC in the academic world. The MRC's position and the fact that its ability to fund in response mode had declined so dramatically, was not understood. There is an obvious temptation—and I have to say I shared it myself when I was a researcher—when seeing glamorous projects like the Mary Lyon Centre and Biobank and the stem cell initiative being launched while response mode funding was falling by a factor of three or four, to think that those two things must be connected. The more I learn—and it has taken quite a while to understand this, and, indeed, I think quite a while for the MRC to understand it—the more I realise that it is not correct . If you are asking me to rake over coals that this Committee has already itself very closely examined, my understanding is that the principal problem was that after the first comprehensive spending review the MRC was led to believe that its future allocation of funds was to be considerably larger than actually turned out to be the case. I am not sure of the details of those errors but the decision making was very fast. The MRC heard from government that there was likely to be a large increase just before—literally a day before—the council meeting at which funding decisions had to be taken, and awards were made quite generously. Not so generously that MRC should be ashamed—in fact, at the kind of award level that I would like to see the MRC capable of making in the future—but we live with the consequences of that. The funds that were actually delivered under that comprehensive review to MRC were not as large as expected, but the commitments were there and we have lived with them over the following five years. It is very, very important that we avoid that kind of situation in the future, and we are putting in place a variety of mechanisms to do so. But I would say, and I say this quite robustly, that it was not caused by a commitment of funds that were otherwise intended for response mode to glamorous projects like Biobank and Mary Lyon. That money was ring-fenced and actually none of it was spent in that session. The major expenditure for both of those things will come in future years.

Mr McWalter: We had no intention of raking over these coals ourselves until you did the raking. And actually you were using an inappropriate rake. But, in the interests of that new relationship you have talked about, and particularly because we were incensed because the very important projects that you discussed in the programme are those into which we wanted to see money going and suddenly we had this catastrophic falling off in the resources available, which was left relatively badly explained, I think perhaps I might not pursue this point.

Q7 Chairman: I want to pursue one thing. You said that you felt you were promised a lot more money than you actually got. Is that true? Who had promised that and to whom?

Professor Blakemore: That is my understanding. The Government announcement about the settlement of the comprehensive spending review led the council to believe that the allocation to MRC would be very much larger than it was. You will understand, though, Chairman, I was not involved at that stage, so I speak only with the evidence that you already have available.

Q8 Chairman: This is information you have picked up.

Professor Blakemore: Yes.

Q9 Chairman: In raking over the coals within the organisation.

Professor Blakemore: Exactly. Could I address again Mr McWalter's concerns? Because the last thing that I would want to do is to leave you with the impression that I personally want to be critical of what this Committee did. I think you quite rightly drew attention to the fact that the academic community was deeply concerned about the problems of the MRC. The Minister, I think, interpreted or misinterpreted the situation and, quite rightly, wanted to know the origins of that. You suggested that the MRC was not as transparent and open an organisation as it might have been; perhaps its tendency, even when discovering its own problems, was to cover them up and pretend they would go away. The MRC will be a different organisation in future in that respect

Q10 Bob Spink: I too heard the programme this morning while I was driving into work. I would encourage you not just to read the words that you said but to listen to the inference that you put on those words. Putting that on one side, I was delighted to hear some of the questions that I might be asking you today. That was helpful to me. Could I start by asking you to go through what you see as being the strengths and weaknesses of medical research in the UK at the moment, particularly focusing on the facilities and the skills and the programmes so far as you know—and I know you are quite new into your position and you will not have the detail.

Professor Blakemore: The great strength of British biomedical research, as in most areas of British research, is the people. We live with the consequences of a culture which placed great value on scholarship and high quality training and on the encouragement of individual effort. The problem is that Britain's current standing in research internationally rests largely on investments that were made and on the culture that prevailed 20 or 30 years ago. I worry about whether we can continue to perform as well in the future. The fact is that in the area of medical research, as I did mention on the radio this morning—my memory is quite clear on this—the US government spends 40 times as much as the British government does.

Q11 Bob Spink: Eight times per person more.

Professor Blakemore: Eight times per person more. Yet we still continue to perform pretty well when it comes to things like citation rates and publication in international level journals. I say this with caution because I realise that one possible interpretation of that is to say, "Well done, just carry on doing the same," but the fact is, of course, that the present record rests very much on the investment of the past and if we want to continue to punch above our weight in that way we have to look to the future. So I say the great strength is the people but we have to nurture them—and that means young people—to provide them with the training, the opportunities and the encouragement to become independent. I think there is something of a crisis in that area. You also referred to the facilities which are available. There is a problem here, in that 20 years of relative neglect in the university sector has led to a degradation in facilities and a decline in infrastructure which has only partially been restored by the JIF and SRIF schemes and by other programmes of reinvestment, and we have to recognise that. Even with the increases in expenditure on science, in successive spending reviews we are still not back, in real terms, at the same funding commitment for science and the same level of the science vote as in the 1980s, and we are certainly lagging far behind our scientifically sophisticated competitors. Britain stands, I think, on recent analysis, 13th out of the 17 leading scientific nations in its fraction of GDP that it commits to the science vote. It is miraculous that we do so well when we spend so little, but it is not going to last.

Q12 Bob Spink: Are we making enough medical research advances, like the human genome risks you mentioned this morning, treating the neurodegenerative diseases like Parkinson's and motor neurone? How do we actually make sure that we get full value for the research, these great advances that we have seen in medical science?

Professor Blakemore: That is a question that I am asking myself and my colleagues constantly. These fantastic advances that we have made and to which this country has disproportionately contributed in the last 50 years have built up great expectation amongst politicians and amongst the public and I think we are obliged to deliver on those expectations. I have a feeling that there is general agreement that the time is ripe for that. We have the backlog of information; we have the completion of the genome project; we have the increasing commitment to translation and clinical application. That is why the MRC has put its major emphasis on clinical research for its proposals of the spending review 2004.

Q13 Bob Spink: Finally, do you think there has been too much short-term funding in medical research? Are we really going to secure that target in 30 years time or are we too short term in our thinking and our funding of programmes?

Professor Blakemore: If you look at the history of science, the critical issue is the balance between short term funding (by which I would mean risk-taking in research), the capacity to recognise that there is value for writing one-off short-term grants in exceptional cases, against the background of continuity funding for established research groups, and, indeed, extending right through to a commitment in the form of research units/ establishments with employed staff. The MRC has all of those things—although your Committee of course pointed out that access to short-term funding through MRC had been very limited by the introduction of the Cooperative Group Grant scheme. I think getting right the balance between short-term funding for speculative, high-risk research and pilot projects; longer-term continuity to sustain the best research groups in the country and underpin the research; and investment strategically with our own funds and our own staff

in institutes and units. Getting that balance right is the biggest problem, the biggest task, the biggest challenge for the MRC.

Q14 Geraldine Smith: In 1988 you stated that you felt there should be a government science department with a science Cabinet minister. Do you still feel that way or have your views altered?
Professor Blakemore: They have not altered at all. I feel it very strongly, and I find it curious that a government that has said and demonstrated in many other ways that it sees science to be at the heart of the future of this country, the future of its economy and its culture, has not recognised the importance of science by creating an independent ministry and giving its minister a seat at Cabinet.

Q15 Geraldine Smith: You appear to express those views quite freely. You do not see any problem with your new position?

Q16 Professor Blakemore: Well, you asked me a question and I tried to reply but I realise that to some extent my mind is no longer entirely my own. Certainly, in this environment I am very happy to say that—and, actually, I would be willing to say it more publicly because I think it is a position that the MRC should be capable of supporting.

Q17 Geraldine Smith: Yes, I would certainly agree with you. You also said that ministers need a better understanding of science. That was back in 1998. Do you think anything has improved since then?
Professor Blakemore: That of course was shortly after the problems of BSE. Ministers in general learned quite a lot about the difficulties and the banana skins associated with dealing with science. I notice that the Government has taken a number of strategy decisions about ministerial statements on scientific issues which is a good development. It is clear that ministers are now reluctant to express personal views about scientific facts and about risk—which is sensible. They turn much more to the opinion of their advisors—and they have also encouraged the scientific community to be much more transparent and open in the way that it deals with the public. I take the inference of that to be that the Government would like people to make up their own minds about scientific issues on the basis of high quality scientific evidence rather than simply being spoon-fed the opinions of the government through ministerial mouths.

Q18 Geraldine Smith: You have obviously gone round the country, you have had roadshows, you have listened to researchers, you have a lot of plans and you would like to see a lot of changes. How can you make sure that your voice is heard by government?
Professor Blakemore: I think that the first step is to make sure that it is heard within the MRC and its community—and that may be a lot easier than having it heard in government. There are certainly a lot of things that we can do in MRC to improve enormously the way it works within the resources that we have. They are generic issues. But overshadowing all of this is the fact that the MRC simply does not have enough money. I hope very much that I can lead an appeal to government and convince ministers that that is the case. That, I have to say, Mr McWalter, is why I expressed such a strong view about re-establishing relations with this Committee, because I really hope that this Committee could help the MRC and, indeed, the other research councils to make that argument stronger.
Geraldine Smith: Thank you very much.

Q19 Dr Harris: May I take this opportunity to express a non-pecuniary interest, in that I have been asked and agreed to advise or help the MRC with some clinical trials work in terms of liaising with the Committee.
Professor Blakemore: An area where the MRC is the biggest public funder.

Q20 Dr Harris: I should also state that you are my constituent and a teacher whose lectures I failed to turn up to as a medical student, so that guilt may be a factor! In relation to this question we have just been discussing about the role of scientists and scientific organisations in engaging the public and the media, you clearly have some experience. Do you think you could do something in particular to raise the effort of the MRC and, through contact, the other research councils in doing more? If that is your view, is it going to be matched by greater resources, whether financial or human, in terms of being able to do this?
Professor Blakemore: Dr Harris, are you suggesting that I should be on the *Today* programme every day?
Dr Harris: Yes, actually.
Mr Key: What a good idea.

Q21 Chairman: No, that is Evan's job!
Professor Blakemore: Absolutely. I frequently wonder why I was appointed to this position but I suspect that one of the reasons might have been that I have 30 years' experience in spending some of my time dealing with the media. Perhaps the Committee should be pleased to think that the MRC was capable of appointing someone who had experience in public communication.

Q22 Mr Key: Yes.
Professor Blakemore: I want to lead the MRC's renewed efforts in that area. This is not to criticise the track record of the MRC in communication, which is very good, but, like so many things that the MRC has done in the past, it has tended to hide its light under a bushel. The MRC has an amazing record and it is much trusted by the press. Its output in terms of media coverage is considerably greater than that of the other research councils, despite the fact that it does not spend any more money than they do. But I shall certainly be attempting within my capacity, given the other things I have to do, to lead a new approach to communication with the public as well as with scientists and politicians.

Q23 Dr Harris: Professor, I was asking you to put some more flesh on those bones. Do you envisage increasing the amount of resources that is devoted to it in terms of personnel at the centre to give a response for the media?

Professor Blakemore: I am certainly looking at whether we have adequate staffing in all sections of MRC head office. I have to say that running with only 3% of our budget devoted to administration, compared with very much higher percentages for the major charities—10%, I think, for NIH—everyone is very hard pressed. Yes, it is not out of the question to have greater resource in head office but I see the major avenue for having increased resources is amongst our scientists. If we can encourage MRC scientists, not just in the units but in the universities as well, to give a little more of their time to public communication, the sum total of that effort would be enormous.

Q24 Dr Harris: We may touch on this again later but, in terms of strategy, if we take, for example, MMR, and the problem there is in communicating the science behind the debate through the media to the general public, there are terrible problems in doing that and we appear to be fighting a losing battle. Does the MRC have a strategy? As I understand it, the MRC were asked, having done a review of the evidence, to contribute to this recent Channel 5 panel discussion with which I ended up being involved. I think the MRC decided it was best not to take part. Do you think in general, without being too specific, that can ever be a good idea? What is the solution? Because empty-chairing television programmes does not necessarily work.

Professor Blakemore: Dr Harris, as you well know, that was a decision that was made by me and it certainly was not forced on me by MRC. You will also know that I do not have a record of ducking difficult issues. But in this particular case I was in touch with others who had been invited to be on the panel and the general view was that the panel could have been seen as a façade to cover an inappropriate and biased drama documentary which otherwise the channel might have had difficulty getting past the broadcasting authorities. I know that the other members of the panel who withdrew, after having originally said they would contribute, felt they were being used a little by the broadcasting channel in question. With that background of information, I felt it was not a situation in which I should put my head above the parapet. I congratulate you for being courageous enough to do so and I understand that you debated very well with the opposition, but may I turn the question back on you and ask whether you have any feeling that that was a staged event.

Q25 Dr Harris: Yes. My concern was, if no one did it, that they would still get people, they would still have their panel and they would still try to neutralise the criticism that was made. In my view, it can never be right—and this is just my opinion—for the best advocates not to take part, because one can always still make the complaint despite doing that. I think the media is always going to do this. The worry is that we will never get a foot in the door because the media is not very good at saying, "Oops, we have made a mistake, we have done it completely wrong, we will sack ourselves and start all over again." I would be interested in your views—obviously I can give you mine outside the meeting—whether it is time for scientists to get, if necessary, down and dirty with the media on these sort of things.

Professor Blakemore: As I said, Dr Harris, you do not need to convince me of that. Any circumstances in which debate is likely to advance understanding, I would be fully in favour of it, but there are circumstances in which debate is simply a charade and is seen as an opportunity to promote one particular view under the banner of balance.

Q26 Mr Key: Professor, I think the MRC is an organisation of which this country can be very proud. It is because of your own approach to arguing the case for science that I was particularly delighted that you were appointed to this job. I am one of the MPs on this Committee who is not a scientist, but I have had the advantage for 20 years of representing the establishments at Porton Down, both of them, plus, what was Dera in Llanelli, Boston Down. I think that MPs probably do not know enough about science. They are frightened of science and there is very little we can do about that unless we happen to be in a scientific community within our constituencies. I wonder if you think there might be something that the MRC could do that would promote some sort of scientific fellowship for members of Parliament along the lines of the armed forces, the parliamentary scheme, the police scheme, the industry of Parliament trust, because at the moment there is a desert out there and I thin MPs need increasingly to be able to confront the challenges which confront their particular constituents about the lines in the sand which scientists cannot cross.

Professor Blakemore: First, Mr Key, thank you very much for your kind remarks about the MRC and about me. I agree with your comments about the need for better communication between scientists and parliamentarians. That is very much in my mind and I hope that the MRC can play a part in that. I think the various Parliamentary link and pairing schemes, have been very effective and I do not see why we should not roll out a similar arrangement under the auspices of MRC. Equally, I think that we in head office could do more to keep parliamentarians informed and we shall try to do so.

Q27 Mr Key: There always used to be one member of Parliament as a member of the MRC. Indeed, I was such a member, back in 1988–89, and I learned an enormous amount from that process. I am not suggesting that we have to have a member on the council, but I do hope there can be some development here.

Professor Blakemore: You should encourage your colleagues, Mr Key, to apply. It is an open application process, of course, and one can simply apply through the OST website. I would welcome that. I would welcome a parliamentarian on council.

Q28 Chairman: You mentioned earlier your roadshows. I guess they were well attended.
Professor Blakemore: The attendance depended on the size of the venue, of course, but, yes, there were as many as 2-300 people in some cases—very well attended. Perhaps more important than numbers, the audience were attentive and the questions were stimulating and lasted for a long time.

Q29 Chairman: Was the report that this Committee put out mentioned at all?—as a shining example of truth and honesty!
Professor Blakemore: It was certainly mentioned, Chairman, at every one of the roadshows and there was a great deal of sympathy with some of the opinions you expressed.

Q30 Chairman: What advice would you give to the "big conversation" that is taking place in the Government party at the minute? What lessons did you learn that we might learn?
Professor Blakemore: Without replying specifically to that question, I would say that consultation requires one to listen and to learn, and that is what the MRC is trying to do.
Mr McWalter: And change one's mind.

Q31 Chairman: Have you plans to do the roadshows again?
Professor Blakemore: Absolutely, and that is what I am telling everybody. This is not a one-off event. I am doing a quick blitz, of course, because I want to be informed by the opinions expressed in the roadshows as we move forward to implement a raft of changes which will probably come in in April of next year, but I do intend to go back for similar consultations in the future because I think that the evaluation of change is as important as change itself. So I will go back and listen. The next round of consultation will be with unit staff and institute directors. We have to look to each of our stakeholders, the public, politicians and parliament and the other funding agencies. I think we need to consult with each of them and I am doing that.

Q32 Chairman: There is one aspect which came up in our inquiry which is a sad reflection of the British way of life, I think, that happens in many units, and that is the inability of people in senior positions to speak out. They are not encouraged to do so. How do you feel about that?
Professor Blakemore: I can see there is a question of balance, is there not, between individual opinion and one's requirement to represent the organisation one works for—a fact that I am learning fast; some of that learning being in this room, it seems, and in the studio of the *Today* programme. But I hope we will not get a situation in which people are penalised for giving strong and robust opinions, even though they have public offices.

Q33 Chairman: Professor, you set a good example as head of a unit, in speaking out on many very important issues, even at the peril of your own life at times. I would hope you would continue and I would encourage heads of units to say things, of course to you, but if they cannot find an avenue there to open it up to Parliament or whatever. Would you agree with that?
Professor Blakemore: I would. I take the significance of what you are saying. It is equally important that I should be responsive to the opinion of people in my organisation. I am putting in place mechanisms for people to speak their mind. I am encouraging that very much, even if their views are negative.

Q34 Chairman: If Julian Goodfellow was to be here, what would you recommend to the BBSRC in terms of roadshows? "Suck them and see" or . . .
Professor Blakemore: I have to admit I do not know the BBSRC's record for this kind of event, but my impression from dealing with the BBSRC as a punter, so to speak, looking at their website, and thinking about applying for grants, they give the impression of being a reasonably user friendly organisation.

Q35 Mr Key: Could I ask you about the safety of scientific researchers. If you were a scientific researcher in the United States of America, you would have specific legal protection against so-called animal rights protesters. In the UK, the Government have said they have no intention of introducing any legislation to protect scientists from attack; and, indeed, no particular programme for protecting the financial viability of those partners engaged in scientific research. I wonder what you would recommend we advise the Government to do about this.
Professor Blakemore: The first thing I would recommend is that the Government should take this issue very seriously. Animal rights activists have demonstrated in the last few years that a small number of committed individuals—because I do believe that the number centrally involved in organising is very small—can really wreak havoc, even for large commercial organisations which would otherwise seem to have tremendous power. Yes, it is a problem that has to be taken seriously. I would imagine, though, that he Government—and I have a lot of sympathy with this—would say that it is a matter of balance between individual rights and responsibilities for the community as a whole. I would be unhappy if any measures that were put in place, even to protect individuals like myself, should deprive individuals who have an opinion different from that of the mainstream of the opportunity to express their views. I myself have benefited from the anti-harassment legislation as it was, even before the recent changes in the law, which was quite adequate to get the principal organiser of demonstrations outside my home arrested and prosecuted. So with regard to the law, it depends how it is implemented, how the local police force, for instance, view the nature of the offence—and I happen to live in an area where it is viewed as a very serious problem.

Q36 Bob Spink: If I may, then the 1997 Protection from Harassment Act does not extend to companies and does not give directors, for instance, from

Huntingdon Life Science the protection that they deserve. Do you think the Government missed a trick? Do you think they should readdress this hole in the law?

Professor Blakemore: From the experience of Huntingdon Life Sciences and the fact that that major company was almost driven to the wall by animal rights activism, including animal rights terrorism, yes, there is a serious lesson to be learned from that.

Q37 Mr Key: What has the Boyd group achieved?

Professor Blakemore: The Boyd group, which I helped to establish with the leader of an animal rights group—and actually I would take that fact alone as an indication of its achievement—had brought around the table virtually the full spectrum of opinion on the animal rights issue, ranging from the Royal Society and the Research Defence Society, right through to abolitionist groups. That alone is an achievement, just simply getting people around a table capable of talking to each other and exchanging views and facts is terrific. The aims of the Boyd group are to exchange views and factual evidence about the issue of animal experimentation, and to try where possible to arrive at a consensus of opinion. The Boyd group has achieved consensus of view in a remarkable range of areas. We were, for instance, the first group to suggest that there should be a local element of assessment in the ethical review process. We were the first to suggest that it was inappropriate to use animals for testing finished cosmetics products and to go on from that to say that it was inappropriate to use animals to test new cosmetics ingredients and household products. So I think we have led the way in a number of areas and have been influential. The Boyd group is I think passing through a critical phase now, where we realise that we have probably run out of consensus to achieve. We have to discover whether there is still a role for this kind of debate, disciplined and ordered and rational debate, when we no longer can reach total agreement. I hope there is. I would consider this to be the maturation of the Boyd group if it reaches the stage at which it can define rationally the basis of differences of opinion. If that can be done, it will be a step forward: because if you know why you disagree with someone, there is a possibility you can work out those differences.

Q38 Mr Key: I have met literally hundreds of scientists at Porton Down over 20 years who have been using trials on animals for the best of all possible ethical and moral reason, but there comes a point when you cannot convince some people that that is the case. The concept of the three Rs, of refinement, reduction and replacement, I think is signed up to by every scientist I have heard, but, as you say, there comes a point when you cannot go any further with people. I wonder if you feel that we, as a community, as a country, simply have to say there is some medical research that can be done—as with primate research at Cambridge, for example—by the use of primates, and if anyone was to know exactly what was involved in that I suspect they would be reassured. Is there a case for a little more openness by the scientific community?

Professor Blakemore: Absolutely. One of the biggest problems that we face in convincing the public about the value and the reasonableness of animal use is that the public are so ignorant about why it is done, the regulations that control it and what actually goes on. I think we have nothing to lose by being frank and open about what is actually done in animal experiments; in fact, we have everything to lose when those facts are discovered and it looks as though we have had something that we have wanted to hide. I would encourage every scientist who uses animals to be completely open in describing what they do. It might be difficult at times, in the same way that it would be difficult for a transplant surgeon to describe in detail the procedures that he uses on a human being, but if the reasons are known and if the precautions that are taken to avoid pain and suffering are known and if the regulations under which scientists work are known, I think we can sell that story to the majority of the public. In fact, the opinion polls quite clearly show, despite the difficulty in persuading scientists to make their case openly, that we are nevertheless winning the argument with the public. Recent polls, commissioned in part by the MRC, show an increasing trend of acceptance by the public, and, interestingly, that ordinary people have the common sense to do the same kind of cost-benefit analysis in their heads which is the basis of the law. People are capable of weighing up, when given evidence about the benefits and the costs and coming to reasonable conclusions about what they will tolerate. Rather than the raw question: "Do you think scientists should be allowed to do anything they want to with animals?" if questions are asked about particular procedures and the attempts that are made to avoid suffering and the potential benefits that might accrue from that research, then up to about 90% of the population are willing to accept the use of animals in such research.

Q39 Chairman: Do you think that animal experimentation and clinical research are in crisis in this country?

Professor Blakemore: I think that is not an unreasonable conclusion—and of course for entirely different reasons: animal experimentation because of the double-whammy of excessive bureaucracy and the difficulty in getting permission for experimentation and the threat of terrorism; clinical research because of bureaucracy, again (the reorganisation of the medical profession which has made it increasingly difficult for young clinicians to get off that ladder and secure proper research training), but also inadequacy of funding and lack of an obvious career track for clinicians who want to pursue research as part of their clinical job.

Q40 Chairman: Will the MRC be addressing those problems?

Professor Blakemore: Yes to both of them. We have already talked about animal experimentation. It is an area where the MRC has been very active and will increasingly be so. I would remind the Committee about the Coalition for Medical Progress—an increasingly influential organisation which was initiated by the Medical Research Council. But, in the area of clinical research, the MRC is centrally involved in very exciting and promising discussions about a radical reorganisation. In the context of two recent reports, one by the Academy of Medical Sciences and the other by the Biotechnology Innovation and Growth Team for the DTI, the Department of Health has set up a working party chaired by Sir John Paterson which is trying to tackle the whole question of how to strengthen and move clinical research ahead in this country. The MRC, I am delighted to say, is centrally involved in those discussions and I think and hope will be centrally involved in how they are implemented.

Q41 Dr Turner: There is an obvious scope for overlap at the basic end of your search with that covered by the broader remit of the BBSRC. In fact, they claim to be getting grant applications which would previously have gone to you—or perhaps they just come to them with your thumbprints on them. Are you satisfied with the clarity of boundaries between the kind of work that you will fund and the kind of work which you would expect the BBSRC to fund?
Professor Blakemore: Each of the research councils has a statement of its specific areas of interests. One of the reasons for that is to define for applicants to which council they should send their applications for support. But, you know, science is not actually sharply divided and ring-fenced into particular territories, so it is not surprising to find that there are applications that hang around the boundaries of interest of BBSRC and MRC. Indeed, one can argue that some of the most interesting developments in science occur at the boundaries of responsibility of the different research councils. So I do not find it surprising that applications sometimes turn up at MRC that might be better handled by BBSRC and vice-versa. What you said, though, implied a different problem and one that I acknowledge; that is, that academics are canny people. They have seen the problems that the MRC have been going through in the last couple of years and they have slightly re-engineered their research interests, or at least their applications, to make them appeal more to BBSRC. Well, you know, staff in grant funding agencies are also canny and they can sometimes spot when that is just a veneer and that really the work belongs more appropriately in a different council. We do have mechanisms—and, from what I know of them so far, I think they usually work quite well—for defining to which council an application should be directed and for trying to expedite the transition of the application as quickly as reasonably is possible to the other funding agency.

Q42 Chairman: May I ask a specific question: EMBO, for example, do MRC and BBSRC both fund EMBO?
Professor Blakemore: Only MRC, I believe. I will let you know in writing if I am wrong, but I believe it is MRC alone.

Q43 Chairman: There is a problem there with funding, is there?
Professor Blakemore: Yes, we have just been asked for a significant increase in our subscription to EMBO to fund their fellowship scheme. If you are asking my opinion of that, it is not yet fully formed. EMBO is a wonderful organisation, very well run. This country benefits from it considerably. It is a model, actually, for the organisation of science at a European level. However, the reason that we are being asked for more money is so that EMBO can sustain its award rate for fellowships when the accession countries join the European Union, but the predicted award rate even if new money does not arrive is still higher than the MRC's present award rate for its own domestic fellowships. It is a real dilemma for the MRC: Do we agree to give money to a good organisation so as to maintain a higher award rate than we ourselves are able to sustain?

Q44 Chairman: This is another case for more resource.
Professor Blakemore: But of course.

Q45 Dr Turner: Do you think there is any case for merging the BBSRC and MRC, since you do have so much work in common?
Professor Blakemore: I think there are two sides to that question, both of which lead to the same conclusion, and the answer is no. One is one of administrative size: they are both big organisations, they are both complex organisations, they both have complicated responsibilities outside the mainstream of their funding. Both BBSRC and MRC are so large that they need their own administrative structure. The other is that the MRC's responsibilities *vis-à-vis* clinical research and health and illness are really quite distinctly different from those of BBSRC. Yes, there is borderline territory where we have common interest. One indication of this is the fact that people in BBSRC research institutes occasionally send grant applications to the MRC—and, actually, occasionally get them funded—and we are discussing with Julia Goodfellow the possibility that workers in MRC research institutes might be able to apply to BBSRC. That implies that there is a borderline which is fuzzy. But the MRC's responsibility for clinical research, for translation from basic science into applications that are relevant to the treatment and prevention of disease, I think defines very sharply the distinctive territory of the MRC.

Q46 Dr Turner: Are you happy with the current success rate of applications to the MRC of about 25%? Do you think this is high enough? Does this reflect the shortage of funds?
Professor Blakemore: The short answer is no. But I am not dissatisfied simply because the percentage is not high enough; I am dissatisfied because we are not able even to fund all the applications that we rate as

being internationally world class and internationally competitive. The percentage of applications that we can fund depends, obviously, on the number of grants we are able to award and the number of applications that are submitted. There are factors that determine that ratio different from the absolute standard of the grants that are funded. At the moment, you will be glad to know, the MRC is funding a higher percentage of its alpha-A applications than a year ago but it is still not 100%. I will remain deeply dissatisfied as long as the MRC is not able to fund all of the world class applications that it receives. That is a very sad commentary. It would mean that we are effectively exercising market forces on a resource that has been built up through 20 or 30 years of investment simply by not providing the funds that are needed to sustain it.

Q47 Dr Turner: Would that form part of your submission to the Government at the next spending review? Do you have any handle on the sort of increase in MRC funding that will be needed especially taking into account the increasing cost of biological research? It is running far ahead of inflation. Are you prepared to give a ball park figure?
Professor Blakemore: If you want a ball park figure, certainly, yes. To be able to fund all the international level research applications that we receive and the best of the nationally competitive applications, and to play our part in the new effort to strengthen clinical research, we would need at least to double our budget. Given the fact that it would still take us only to a quarter of the level of funding per head of the population of the United States, I do not think that is an unreasonable expectation. I would ask the Government whether it believes it is right that it should be funding medical research at one-eighth of the level that the US Government thinks is appropriate.
Dr Turner: I would have sympathy, professor, for that.

Q48 Mr McWalter: If I may ask a question I have asked other research councils. The spirit of openness that you have been showing today, not just in what you have said but in the way that you have said it, I heartily commend. But one of the issues is how you prosecute that argument about the costs of not funding these issues. I specifically would like to ask whether you would be prepared—okay, with the consent and support and so on of failed applicants of the kind at international level and the best national research enterprises that you are having to turn down—to publicise those projects, so that people can see what they are missing if they do not get an appropriate level of funding. Would you be prepared, in the interests of openness, to do that?
Professor Blakemore: That is a radical idea and I am ashamed at myself for not thinking of it. I think that is splendid. Of course it would require the compliance of unsuccessful applicants to disclose their lack of success—but I can work on that.

Q49 Mr McWalter: That is a different answer from the one I have had before.
Professor Blakemore: I am interested—and, indeed, would hope to talk to members of the Committee privately about this—about the appropriate way to take forward this argument if, as I sense, the Committee agrees with the thrust of what I am saying, that science, particularly perhaps medical science, simply deserves more of the public purse. I need your advice. You are the parliamentarians, I am the scientist; I need your advice about how to pursue the argument.

Q50 Mr McWalter: It is silly to deprive ourselves of a good argument.
Professor Blakemore: Yes. I often think that scientists are too reticent in pursuing their own arguments.

Q51 Dr Turner: There has been quite a lot of criticism of Cooperative Group Grants. If you were to scrap them, what other mechanism would you put in place to foster collaborative work?
Professor Blakemore: You say "if". The review of the Cooperative Group Grant scheme—which by the way the MRC put in place shortly after the scheme was introduced—has just reported. I am sure you will all be eager to read the 262 pages of the pdf download file which is on the MRC website now, but if you want the executive summary I can give it to you. It is that the Cooperative Group Grant scheme is generally unpopular—and that is reflected in my impressions from the roadshow events—largely because it has, as it were, protected the project grant scheme from the academic community. That led, to some extent anyway, particularly among the later applications that were received, to what appeared to be synthesised collaborations—"marriages of convenience" was I think the phrase that you used, and I do not think that is bad—organised, simply to get access or attempt to get access to additional funds. We are actively considering—and I have to say this with some caution because of course everything is subject to the approval of Council—ways of moving on from the Cooperative Group Grant scheme while supporting the principle of supporting collaboration, of course, but in a much simplified form. If I could be specific, we are thinking of introducing a very flexible form of grant scheme which essentially will allow people to apply for small grants as well as large grants, and to allow them to couple to their basic research grant (if they can make the argument separately for it) a supplementary grant to cover the cost of cooperation and collaboration. And that cooperation and collaboration could be with any other grant holder; there does not have to be the complicated requirement for two MRC grants and 18 months still to run and so on that the Coop scheme had. It is just a simple scheme giving people money to collaborate.

Q52 Chairman: As for moving to work with other research councils, there is no attempt to move to Swindon, I guess, from your palatial headquarters in Park House.

Professor Blakemore: I go to Swindon, and in some respects it appears a lot more palatial than Park Crescent. If you are asking me to defend the presence of MRC at Park Crescent, I would certainly do that robustly.

Q53 Chairman: I was interested if there were any plans to mix with the staff in other research councils more directly over tea and coffee.
Professor Blakemore: Chairman, we do that already. We have this new organisation, RCUK, which I think in many respects is working well to define new ways in which the research councils can work together more effectively. From a scientific perspective—which in some ways is the one that concerns me most, that has he highest priority in my plans for MRC—RCUK offers wonderful opportunities to identify areas of growth across the boundaries of research councils and to make those the basis of proposals for the comprehensive spending reviews. One of the proposals we are pursuing at the moment, for instance, is one with the ESRC, a project called Changing Ourselves which is about lifestyle and health, a very important area of social concern at the moment with the interest in obesity and so on. Another proposal is for a collaboration with BBSRC on infectious diseases. We are even talking to the Arts and Humanities Research Board about areas where we might put forward proposals for joint-funding activities.

Q54 Dr Harris: In terms of Mill Hill—which is a subject, I know, close to your heart and something you were keen to take on when you arrived—there has been or there is an ongoing review. Could you say a word about when that is due and how that is going?
Professor Blakemore: Yes. You are referring to the Task Force, the new process that was established after the Council set aside the recommendation of the Forward Investment Strategy sub-committee that NIMR should be downsized and moved to Cambridge.

Q55 Dr Harris: Downsized?
Professor Blakemore: The proposal was that it should be reduced in size and moved to Cambridge, but that was set aside. The Task Force is more fully representative. It includes representatives from Mill Hill and has mechanisms for engaging a consultative process with Mill Hill staff. It has a wide range of expert members, several of them proposed by NIMR itself, and it is conducting its work very openly and transparently. We have had only one meeting of that group so far, but we have a very tight timetable to deliver, and we want to produce a preliminary report by the early spring of next year and we have set a deadline of July for a final report with recommendations to the Council.

Q56 Dr Harris: Do you think it would be a fair criticism—and you may not have heard this, so I just ask openly—that the task-force membership is not sufficiently representative of those from Mill Hill compared to those people from other sites who might benefit from a transfer. Secondly—this is another rumour that had been heard some months ago from people at Mill Hill, who were grateful to hear about the stay of execution—that the task force is not considering all the options. Is it really an open mind exercise, so there is nothing which has been ruled out?
Professor Blakemore: I can assure you that my mind is completely open. Of course I cannot speak for the minds of everyone on the committee—this is a philosophical problem of other minds.

Q57 Dr Harris: That should become clear from the terms of reference.
Professor Blakemore: Yes.

Q58 Dr Harris: Perhaps you could reassure me about the terms of reference.
Professor Blakemore: Let me describe the constitution of the task force. Apart from myself it consists of two representatives from NIMR; two representatives from the Council who were not members of the original FIS sub-committee; a vice-chancellor of a medical school; five or six[1] experts from outside this country, four[2] of whom, I believe—and I will check on the figures—were suggested by NIMR itself—we gave them the opportunity to suggest names. That sounds reasonably balanced to me. As for the openness of the remit, it is totally open. What we have on the table is a range of options extending, and we have all agreed on this, from keeping NIMR at the Mill Hill site with new investment and an increase in size—one of the spectrum of possibilities—through to complete closure of Mill Hill and the deployment of the resources elsewhere, and we are trying to identify where within that thought space the optimum solution lies.

Q59 Dr Harris: I am keen not to pre-judge the issue so I want to reflect a little on the past. Do you think the reaction, which was very hostile from both the people there and the people who were presumably lobbied and knew the Institute, was simply because it was felt by those people to be a bad idea, or from what you can tell looking back do you think the process was flawed? In other words, is it inevitable that whenever a change is made there would be this sort of hostility to it or were there special factors here about the process which could be avoided in the future by you and indeed other research councils?
Professor Blakemore: I am sure the strength of the reaction was predicated on both of those things: on the nature of the recommendations that were made, which were a shock to people at Mill Hill, but also on the way it was done, apparently without adequate consultation, which was their perception.

Q60 Dr Harris: Was it a fair perception, in your view?

[1] *Note by the Witness:* The actual number is four.
[2] *Note by the Witness:* The actual number is three.

Professor Blakemore: I think it was a fair perception, yes, and I hope people in Mill Hill now, even though they remain anxious about this process, will accept there are fair procedures in place and the consultation genuinely is wide and open. Could I simply add, that it is a responsibility of the MRC to review its investments on a regular basis. Mill Hill is the largest single investment of public money that the MRC makes. It is quite right that we are doing this. We have to do everything we can to involve Mill Hill, and to allay anxieties, but we must do it, it is quite right we should do it.

Q61 Chairman: This Committee is going to be looking at academic publishing and the problems which are now arising in the scientific community. One example was illustrated this weekend of the drug companies paying senior academics to ghost papers for them in which they mention the wonder of their drug and so on, so there is that end of the fraud which goes on. We are also concerned about people being able to publish openly in the best journals without being fleeced by companies who are interested in peer review. Would you like to say briefly if the MRC are concerned about these kind of problems too and if there is anything going on?
Professor Blakemore: We are much involved in discussion about open access publishing, and I am in close contact particularly with Mark Walport at the Wellcome Trust who has strong views in this area. In principle, the MRC of course is in favour of openness of publication and the retention of copyright and other rights by authors. There are some concerns about open access publications. One parochial concern of a research council is the question of whether this means research councils, through paying the cost of publishing through grants, will essentially take up some of the burden which was previously covered by libraries—not just libraries in this country but all around the world subscribing to those journals. By transferring the cost from the reader to the author will that cost simply fall on the research council and essentially become another shift of responsibility for funding. The second is a particular personal concern for the learned societies. Many of the learned societies which benefit their research communities enormously, publish journals.

Q62 Chairman: And make money out of selling them.
Professor Blakemore: Yes—make their money from running journals, and many of them are not involved in making huge profits, they are in the business of ploughing back money from publication for the benefit of their research communities. So I am a little hesitant about rushing towards what looks like an idealistic solution to the publishing problem to the detriment of the learned societies.
Chairman: Thank you very much. I am sure you will be able to input into our inquiry which will start in the New Year. The last question from Tony please.

Q63 Mr McWalter: Just on higher education policy. What do you think of the Higher Education Funding Council's decision to lower the ratio between, say, clinical subjects and history or whatever from 4.5:1 down to 4:1 given that Save British Science calculates there will be a loss of £22 million to science teaching if those ratios go ahead?
Professor Blakemore: Yes, I am alarmed about some of the recommendations on changing the funding ratios between subjects because they fail, it seems to me, to recognise the increasing cost, and disproportionate increasing cost, of teaching in many areas of science, laboratory-based science. The biological sciences are big sciences these days, they require kit on a scale which was not imagined 20 or 30 years ago, and if anything we need a higher proportion of funding directed at teaching the biological sciences if we are going to maintain standards.

Q64 Mr McWalter: How have you expressed those concerns to Sir Howard Newby?
Professor Blakemore: I have been involved in responding to the consultation through a number of organisations, most particularly the Physiological Society and the Bio-Sciences Federation, and we have made that point. Also on that point, but also on the question of the possible withdrawal of the QR element for charity funding, I have expressed concerns directly by letter jointly with Julia Goodfellow.

Q65 Mr McWalter: What about the Higher Education White Paper? Is that something you would be proud to be the author of?
Professor Blakemore: I am not sure whether on behalf of the MRC I should express an opinion about the Government White Paper.

Q66 Mr McWalter: Do you think it is broadly neutral in terms of its impact on clinical science?
Professor Blakemore: I would need to inform myself more closely before giving a definitive response, and it would be my response rather than the MRC's response.

Q67 Chairman: You mean the MRC has not discussed the Higher Education White Paper? Surely that is somewhat remiss of it?
Professor Blakemore: I am sure, Chairman, the MRC has discussed it at length. I, nine weeks into the job, and with 13 out of 17 roadshows behind me have not actually had a few milliseconds in the middle of the night to read it completely yet.

Q68 Chairman: Not even the first 100 days yet.
Professor Blakemore: Exactly.

Q69 Chairman: But there is no position about some of the controversies which are running around that subject now, teaching at universities, university research, university fees and all that sort of thing?

Professor Blakemore: I can express a personal view.

Q70 Chairman: Please, that would be very interesting as a distinguished scientist.
Professor Blakemore: Please take this as not representing the MRC Bible on the issue.

Q71 Chairman: Of course.
Professor Blakemore: I would be sad if we moved to a position in which talent in a University environment which is not highly successful yet in research could not emerge and flourish. It would be a great pity, in my opinion, if we concentrated resources completely on a very small number—prestigious though they may be—of research-active universities and therefore created a situation in which no new, genuinely original talent could emerge from any other area.

Q72 Mr McWalter: I certainly did note your concern about research and national and international excellence. That is one of the areas we are very concerned about.
Professor Blakemore: That is right. Paradoxically, because it is very different from the view I had ten years ago, I think the proposal which has recently come from the Royal Society is one worth thinking about very seriously. Frankly, I used to be a real fan of the dual support system but that is when it was a real dual support system, it has become so eroded and complicated by the changes in the last 15 years it is almost unrecognisable. The radical view which has been proposed by the Royal Society of simply moving all of the R element to research councils has produced a strange, unholy alliance of the presently rather under-active universities in research and the over-achievers. This is because the universities which are presently not gaining at all through the RAE, because they do not have departments that score sufficiently high to attract QR funding, at least have a chance if they secure some research grants of getting an element of R input, so the Royal Society's proposal looks quite attractive to them. I think we should look at this seriously.

Q73 Chairman: This is Bob May's pronouncement about the RAE. You are attracted to that?
Professor Blakemore: I think we should look at it seriously and not simply dismiss it.

Q74 Chairman: This Committee might have a look at it again, having done some of the dirty work earlier on.
Professor Blakemore: We should not under-estimate the burden of the RAE to universities now, and I think we ought to be questioning its value, when it is responsible mainly for dotting the Is and crossing the Ts for relatively small changes in the allocation of money. The change from RAE to RAE is now relatively small, but the Execise remains an immense burden on the research community in cost and time.
Chairman: We have two other questions.

Q75 Bob Spink: While you are on these strategic broader subjects in HE, are you concerned about the possible imposition of variable tuition fees discriminating against certain sectors of society who might come into medicine and then on to medical research?
Professor Blakemore: You are leading me into territory which is a long way from my MRC role.

Q76 Chairman: But you are a Radio 4 man for goodness sake!
Professor Blakemore: As long as I can make the disclaimer that I am not speaking on behalf of the MRC—

Q77 Chairman: We accept that, but we value your advice as a very, very senior scientist.
Professor Blakemore: In principle, the top-up fee idea and certainly the differential top-up fee idea make me very sad. On the other hand, we have to come to terms with the fact we now expect that at least 30%, and some people talk in terms of 50% of school leavers having the benefit of higher education. In principle that is marvellous. I do not know whether the figure is quite right but it is terrific that more people than in my time have this opportunity. When I went to university, only 5% of school leavers went to university. I came from a working class background and was immensely privileged, my parents did not have to spend a penny because I got a state scholarship and everything was paid. But we are now trying to use a system which dealt very well with 5% of school leavers to deal with 35, 40% of school leavers, heading to 50% going on to higher education. We have to think out of the box if we are going to solve this problem. I am not sure top-up fees are the right way to do it but we have to think about how we are going to fund properly a high-quality, diverse university sector when such an increasing fraction of school leavers are aspiring to higher education.

Q78 Dr Harris: I would like to defend the Government policy from the likes of the Chairman—I would like to but I cannot! I would like to probe a little further on this question of the impact of debt, because I think there is general agreement across the spectrum that more money has to be found for the universities, it is a question of whether that is done by imposing debt on students or not. I am not going to deal with the access issues, you have given a hint on your views, but in terms of the best people going into academic work and research work which do not have high salaries compared to the other things that the top scientific graduates can get in salary terms in the City, do you accept, either in your own personal capacity or from the experience of the MRC or indeed your research department, that there is a balance to be had between getting the best people to go into relatively low paid, grant-chasing jobs some of the time versus seeing the best go into higher earning jobs to pay off debt?
Professor Blakemore: I see the thrust of your question. I think it would be very, very sad if the primary consideration for most graduates were

simply to secure a career that will quickly repay their debt. If that becomes a very significant factor in people's career choice, I think it will be sad for the future of the country, because it will steer people away from decisions which are influenced more by vocation, and by interest rather than simply by pecuniary reward.

Dr Turner: A last question on top-up fees because it is close to our hearts.

Chairman: It is hot!

Dr Turner: It is quite clear from what the directors of the leading research universities have been saying, in particular the Rector of Imperial College, that they are concerned with the future competitiveness in the international research stakes as far as universities are concerned, and they want massive top-up fees. It is quite clear, by implication, they are implying students should actually not only contribute to their own education but also contribute towards the cost of the research in those universities. Do you think this implies a desperate flaw in the way in which we fund research in this country?

Q79 Chairman: We could not possibly expect you to have a view on that.

Professor Blakemore: The biggest flaw is that universities are not adequately funded to do anything they do, either to teach or do research. We have been living in cloud cuckoo land for the last 20 years, trying to sustain research on the basis of the talent and the interest that exists but with inadequate funds, and that has led to the decline in infrastructure and the crisis for the young researchers that we now face. I think a similar argument could be adduced for teaching. On the other hand, I think you paint too simple a picture of teaching funding subsidising research which fails to recognise the intimate relationship, at least in advanced teaching, between teaching and research. We all know the difference between lecturing which is done by somebody who actually does research and knows about it, and the authenticity of those views, and teaching is done by a hack teacher who has never been in a lab at all. There is a huge, huge difference. So I think we should explicitly recognise what being active in research brings to the quality of the teaching, not think of them as two aspects of the university function which are simply fighting with each other for the money.

Q80 Chairman: Thank you very much for coming. One of the delights of being on this Committee is that last week we saw Julia Goodfellow, who is also passionate about science and very determined, and then to have the freshness of you joining with her is rather exciting and we join in with your enthusiasm for science and technology. I am sure we will be working together to achieve not just your personal aims but certainly the aims of the Medical Research Council. Thank you very much for coming and sharing this new career with us and the excitement you are now generating in this field. Thank you very much.

Professor Blakemore: Thank you, Chairman.

Written evidence

APPENDIX

Memorandum from Professor Colin Blakemore, Chief Executive, Medical Research Council

INTRODUCTION

My understanding is that this session is intended not to scrutinise the MRC in detail, but rather to establish my views on how I intend to manage the organisation, and on current issues facing medical research. Since I have been in post for only two months, I appreciate this emphasis on broad issues rather than on the details of MRC business, which are, in any case, likely to change as a result of changes in management.

This submission is structured according to headings provided by the Secretariat.

Firstly, I would like to record formally that the MRC has achieved an enormous amount over recent years, particularly in delivering on its main mission—supporting and delivering high quality research. The recent Noble Prize for Sir Peter Mansfield is the 22nd Nobel Prize for researchers supported by the MRC. The organisation has much to be proud of and I am proud to have joined it. However, there is no room for complacency and the MRC must build on its achievements, respond to changing circumstances, and do even better in the future.

1. COMMUNICATION WITH THE RESEARCH COMMUNITY

As the Committee identified in its earlier Report, and as the MRC and the Government acknowledged, we must communicate more effectively in future, not only with the scientific community but also with the wider public and our other stakeholders. Specifically, my experience in talking widely about the MRC's problems with response-mode funding last year convinces me that better communication, in advance, about the cause and scale of those difficulties would have obviated at least some of the anxiety and misinterpretation that they caused.

More generally, I see openness and transparency as vitally important in the work of the MRC. We shall be open and publicly accountable for what we do, unless there are overriding reasons otherwise (for example in relation to personal issues, some early stages of policy development, and protection of intellectual property).

As the Committee might know, since taking up my appointment I have been on a series of "roadshows" to Universities across the UK—12 by 30 November, with a further five to follow. I have been in listening mode, hearing the research community's views about medical research and the MRC. Incidentally, I have, at each of these events, explained the basis of the problem of response-mode funding and this has been universally accepted and well-received.

The main issues and aspirations that have emerged so far in these roadshows are:

- A desire for more flexible and simpler grants:
  - Concern about the complexity of Co-operative Group Grants, but with a desire to retain some simpler form of support for collaboration and infrastructure support.
  - Hunger for the return of shorter-term "project" grants.
- Better support for young researchers:
  - Need for small grants/project grants specifically for young researchers.
  - Lack of a career path for researchers.
- A need to strengthen clinical research and research training:
  - Concern about training for young clinical researchers.
  - Need for a more "joined up" approach to the support of clinical research.
  - Need to strengthen the relationship between MRC, Department of Health and other funders of clinical research.
- Need to strengthen partnerships with Universities, with strong support for the MRC Centre scheme.
- Support for the idea that MRC Research Boards should be empowered to take more responsibility for "portfolio building".

The emergence of so many consensus opinions from the roadshows has been gratifying. They have provided clear signals from the scientific community about what it wants the MRC to do, and those views correlate well with my own hopes and plans. I shall continue to keep the academic community informed and will provide new mechanisms for them to comment on, criticise and assist the work of the MRC in the future.

I have also been talking widely to MRC's own scientific staff in our Institutes and Units, to the Chairman and other members of the MRC Council, and to key stakeholders, including the medical research charities and the Department of Health.

Such communication is important not just to discuss the way MRC works and should work, but also to fulfil our commitment to publicise the results of research, and hence to get the outcomes into policy and practice (and incidentally thereby raising MRC's profile).

Communication with the research community operates at several levels. A number of initiatives were described in the Government's response to the Committee's Scrutiny Report (http://www.ost.gov.uk/research/councils/govresponsestcomm.htm), and these will continue. One example is our new quarterly newsletter "MRC Network", the next issue of which will be published (electronically and in print) in December.

We need also to develop the trust of the public in science and scientists. As the Committee might know, I have devoted a substantial fraction of my time over the past 30 years to public communication of science, through broadcasting, the printed media, and public events. I am passionately committed to the principle of dialogue and engagement with the public. I am still Chairman of the British Association and am much involved in the work of the new Dana Centre (for public debate and dialogue about science) at the Science Museum. I have every intention of continuing to give interviews, to write articles and to take part in broadcasts about science and science policy. I hope that this will be of benefit to the MRC.

Through its communication strategy, the MRC will report on its activities via a variety of routes, will aim to provide realistic and reliable interpretations of scientific findings, and will stimulate and engage in public debate about medical research and its applications.

The MRC already enjoys the trust and respect of the media and the Committee can be assured that it will be even more visible in the future.

2. Management and Leadership Philosophy

Despite the considerable workload and responsibility of Chief Executive of the MRC, I believe it important that, so far as possible, I remain scientifically active and close to the coal-face of science. I shall continue to hold a professorial appointment at Oxford and I hope to maintain and direct a small research group. I feel that this will be important not only to satisfy my own love of research but also so that I retain credibility with active scientists.

I have many ideas for change and I want to implement them quickly, but I recognise that to making effective change in such a complex organisation requires a broad evidence base and broad support from those involved in implementing the changes. This is one of the reasons why I have been consulting a wide range of stakeholders. Wherever possible, I have aimed at acquiring evidence and seeking support through inclusive and transparent processes, and this has necessarily taken time.

I stated publicly, as soon as I was appointed, that I should like to see particular focus on:

- younger investigators;
- clinical research;
- revision of grant structures;
- management of funding streams;
- openness and transparency; and
- engagement with the public.

I believe that working in partnership is crucially important. Such partners include: universities, charities, Government, other Research Councils, and international partners and agencies. I see a number of opportunities for closer collaboration with these partners, and especially with other funding agencies in this country. Such cooperation will help us all to use our limited resources more effectively.

I have been working, with the support of the MRC Office and all whom I have consulted, to develop a range of operational changes that would affect the structure and role of the research Boards, forms of support, refereeing procedures, allocation and management of funding streams, and interaction with the universities and other stakeholders. The proposals have very recently been discussed at a residential consultative meeting, involving members of MRC Boards and Head Office staff, and there was unanimous support for them.

Of course, the MRC's Council is its ultimate decision-making body, and its blessing will be needed for change to be implemented. I have already discussed some of my initial thoughts at Council, and will be asking them in December and February to discuss and agree the specific changes that I have in mind, for implementation starting in the spring. Incidentally, I have proposed that the MRC should shift all its operations to a financial-year basis, which will simplify accounting and modelling, and which also gives us the target of next April for the introduction of new policies and procedures.

I am happy to discuss some of my preliminary ideas with the Committee orally.

3. Relationship with other Research Councils

The relationship between the MRC and the other Research Councils is excellent. There has been good communication in the past, both at Chief Executive level and at officer level. Mostly the interactions have been over scientific issues of common interest, or over policy issues where the Councils have common cause. It is my firm view that the separate Research Councils provide appropriate units of management, and reflect sensible broad divisions of scientific activity. However, we are all aware that some of the most interesting and important developments in science occur at the interfaces between disciplines and it is important to have in place mechanisms to recognise and foster such developments. There are, then, overlaps in the scientific remits of the Councils, and opportunities for collaboration in the promotion of multi-disciplinary science, and these are managed pragmatically. Multi-disciplinary approaches are often assisted by close partnership between the funders, particularly in areas of strategic importance.

A notable achievement, with advantages to the scientific community, has been the use of single peer review for a number of joint Research Council initiatives. Examples include Inter-disciplinary Research Centres/ Initiatives (EPSRC review with a MRC contribution); Innovative Health Technologies (ESRC review with MRC financial contribution); Discipline-hopping awards (MRC review with BBSRC and EPSRC financial contributions; and the MRC Centre for Best Practice for Animals in Research (MRC managed with a BBSRC contribution).

The establishment of RCUK has helped to strengthen relationships between the Research Councils and to reach consensus on big issues—where research (including the arts and humanities) needs to speak with one voice. The Committee will have seen some evidence of this in the RCUK's response to many of the Committee's consultations or requests for evidence. The RCUK Synthesis of Strategies (published in September) and the RCUK Vision (to be published in December) are further examples of the Councils working closely together.

MRC is also fully participating in driving forward the joint administration strategy across the Councils, seeking to harmonize procedures and to cooperate in administration wherever this provides better value for money and/or more efficiency and simplicity for the users of our services.

4. Challenges Facing Medical Research

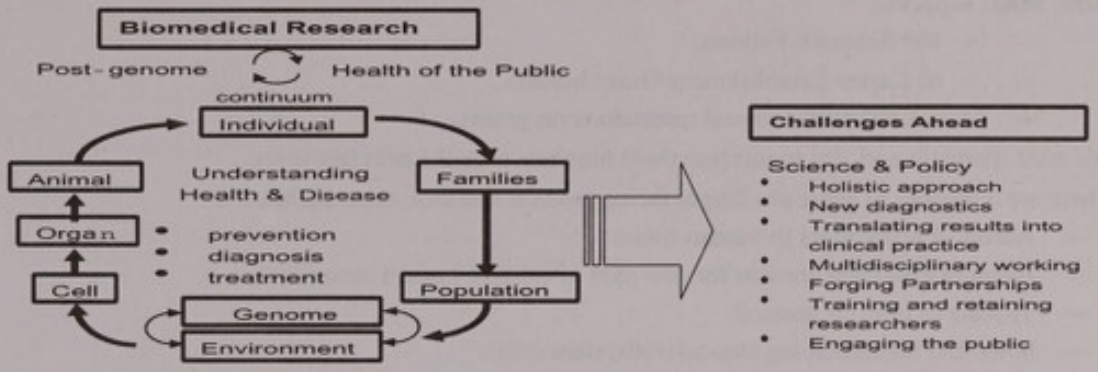
In my opinion, the single biggest challenge facing medical research in the UK is the shortage of funding in relation to the opportunities for making significant advances that will ultimately lead to better health and wealth. There are so many good ideas, but not enough funds to support them. In comparison to many other developed countries, the UK spends a smaller fraction of public funds on medical research. The most extreme, and most pertinent, comparison is with the United States. The National Institutes of Health in the US (the equivalent of the MRC) spends nearly 40 times as much as the MRC receives in grant-in aid (ie about eight times more, per capita of the population). I dream of what the MRC could achieve if the British government would make the same level of commitment to the future health of the nation.

Many of the treatments and preventive measures used in UK health care have been developed from MRC-funded research. We aim to continue to fund the best research with the potential to improve human health in areas where the burden of disease is most significant. However, the right balance has to be struck between short-term "pay-offs" and promoting the longer-term development of fundamental science that will in time lead to improvements in health and wellbeing.

I believe that continuing to encourage and support investigator-led research is crucially important. History shows that this is how some of the greatest scientific advances and the shifts in the paradigms of thinking have occurred. This year's Nobel Prize to Sir Peter Mansfield, who received substantial MRC funding over more than 20 years, is a timely reminder of that. Nevertheless, the Council is funded by the tax-payer through Government, and we also have a duty to support research that addresses particular health issues through more strategic mechanisms. Thus both curiosity-driven and strategic approaches are needed; they are not mutually exclusive. What is crucial is that strategic objectives should be set on the basis of the capacity, knowledge and interests of the research community. Experience shows that scientific problems are not solved simply by throwing money at a strategic target plucked out of the air, but by being sure that the community desires and is capable of responding to a particular strategic thrust. The MRC's recent strategic emphases on stem cell research, brain science, e-science and post-genomic science are excellent examples of the marriage between scientific capacity and strategic thinking. I am hoping to put in place new mechanisms to ensure that the MRC's strategy development is informed by the strength and ability of the scientific community.

The scientific challenges facing medical research over the next 10 years or so have been described in the Council's "A Vision for the Future". (see http://www.mrc.ac.uk/pdf-mrc vision 2003.pdf). Medical research in the coming decade, building on the spectacular success of the past 50 years, will require

approaches at all levels: molecules, cells and tissues, animal models, whole organs and systems, individuals and populations (*see Figure, below*):



Late 20th-century biology was largely reductionist, focusing on the biology of single genes and proteins. Although this approach produced much new knowledge about life processes, a more complete understanding of the human body in health and disease clearly requires a more holistic approach. 21st century biology will be much more integrative, with a shift in focus from studying individual molecules towards analysing interactions within the complex molecular and cellular networks that control whole biological systems. In addition, patient-oriented clinical research will help us understand health and disease processes at the whole person level. The time is ripe for a new commitment to modern clinical research, in order to deliver the benefits to human health that the bioscience of the 20th century has promised.

Particular areas of growth and/or where more funding is needed in the shorter term include:

- Strengthening clinical research
  - Clinical research is included in MRC's proposals for additional funding through SR2004.
  - MRC and other funders need to give clinical research a higher profile.
  - As a nation, we need to attract and retain bright young clinicians in research.
  - We need to put in place new and strengthened mechanisms to coordinate research funding, scientific planning, ethical considerations and health service research support if clinical research is to accelerate significantly.
- Stem cell research
  - This is an area where the UK remains in the lead and we must not lose the initiative.
  - "Regenerative Medicine" is included in MRC proposals for additional funding through SR2004.
- Brain science/Mental Health
  - MRC received some funding in SR2002, but this was only sufficient to pump-prime a small co-ordinated programme.
  - This remains one of the highest health priorities for government and potentially an area where science can make a huge difference.
  - Further funding for brain science is included in MRC proposals for additional funding through SR2004.
  - A successful recent Foresight project on Cognitive Systems has highlighted the need for support between the biological and physical sciences in the burgeoning area of cognitive neuroscience.
- Infections
  - Infections continue to be a significant health burden; new infections arise (SARS), re-emerge (TB) or become resistant to treatment (MRSA).
  - New approaches are needed that will lead to new treatments and vaccines
  - "Infectious disease" is included as one of the cross-Council proposals for additional funding through SR2004.
- Health and behaviour
  - Important in many preventable diseases; many unhealthy behaviours are increasing (or no longer declining) with serious consequences for future generations.
  - Diet/exercise; sexual behaviour; smoking; drinking.
  - Health and behaviour is part of the cross-Council proposal ("Changing Ourselves" for SR2004.

For the continued health of medical research in this country, we need to attract and retain talented younger investigators by providing them with opportunities, career structures and sufficient funding. At present, MRC supports:

- ~ 400 Research Fellows.
- ~ 60 Career Establishment Grant holders.
- Over 1,200 post-doctoral researchers on grants.

We must maintain and aim to increase these numbers over the next few years.

There are a number of other challenges facing medical research; these include:

- Access of researchers to human tissue.
- Issues in obtaining consent for new uses of existing human tissue/data.
- Threats to primate research.
- Some EU legislation (eg clinical trials; stem cells).
- The need to maintain public trust in science through a sustained and honest dialogue about what science involves and what it can, and cannot, deliver.

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