

Science and Technology Committee

Oral evidence: [Pre-appointment hearing for MRC and UKRI Chairs](#), HC 747

Wednesday 31 January 2018

Ordered by the House of Commons to be published on 31 January 2018.

[Watch the meeting](#)

Members present: Norman Lamb (Chair); Bill Grant; Stephen Metcalfe; Carol Monaghan; Martin Whitfield.

Questions 1 - 71

Witnesses

I: Sir John Kingman, Government's preferred candidate for the Chair, UK Research and Innovation; and Professor Fiona Watt, Government's preferred candidate for the Executive Chair, Medical Research Council.

Written evidence from witnesses:

- [Department for Business, Energy and Industrial Strategy](#)

Examination of witnesses

Witnesses: Sir John Kingman and Professor Watt.

Q1 **Chair:** Welcome, both of you. Thank you very much indeed for coming along. Do you want to introduce yourselves quickly?

Sir John Kingman: My name is John Kingman. I am the interim chair of UKRI, and my other job in life is chairman of Legal & General.

Professor Watt: I am Fiona Watt. I am currently head of the Centre for Stem Cells and Regenerative Medicine at King's College London, and I am the preferred candidate for the job at the MRC.

Q2 **Chair:** I will start by asking each of you why you decided to apply for your respective roles. Perhaps Professor Watt would start.

Professor Watt: It has to be said that I was not exactly looking for a new job, but when I had a very persuasive phone conversation I could not turn down the opportunity to lead the MRC, which has a fantastic history, in such an exciting new phase of research for the country. It is unprecedented and a great opportunity.

Q3 **Chair:** Did they approach you?

Professor Watt: Yes.

Q4 **Chair:** Sir John?

Sir John Kingman: I suppose it is the most interesting and important thing I could possibly be doing right now. I hope it is self-evident that the responsibilities of the UKRI are incredibly interesting and important for the country. I have been doing the job on an interim basis for about 18 months, and the opportunity of not just being part of setting up the organisation but, I hope, making a success of it, if I am confirmed, is a great privilege.

Q5 **Chair:** Fiona, can you say what you think is most relevant from your career to date to qualify you for this role? Could you also respond to the issue about the roles you have in biotech companies, and whether you will be resigning from those to avoid any conflict of interest?

Professor Watt: I will take the second question first. Of course, I will resign from all roles where there is a potential for conflict of interest. I see my interactions with biotech and the commercial sector as useful for this role, but obviously it is important that there is no conflict of interest.

In terms of what I bring to the role, I am a well-known, successful scientist; I am very visible internationally. I am also known for speaking on science issues outside my speciality—for example, women in science or the importance of peer review. I have experience of setting up new things and leading multidisciplinary consortia to achieve specific scientific goals. I see those as strengths that I could bring to the role.



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Q6 **Chair:** Sir John, your situation is different because you have had an interim role, but perhaps you could say what experience you have outside your role as interim chair to equip you to do the permanent job.

Sir John Kingman: I should say, first, that I am not a scientist. I think the reason I was asked to be interim chair reflected a long history I had in my previous career in the Treasury where I was very involved in issues around science funding and innovation policy over very many years.

Q7 **Chair:** You had particular responsibility in those areas.

Sir John Kingman: I had particular responsibility in a number of roles at different levels of seniority. To give an example, in 2004, the Gordon Brown chancellorship in the then Government undertook what was then a 10-year framework of investment in science and innovation. I oversaw that project at the time.

I have counted that I was involved in five spending reviews affecting science over many years, and many Budgets and autumn statements. My qualifications are not in any way scientific, but I have had long experience of policy making in the area, and, for what it is worth, I have long been a consistent supporter of spending money in the area, and I was when I was in the Treasury.

Q8 **Chair:** I think I am right in saying that you were asked by the former Chancellor, George Osborne, to undertake the role.

Sir John Kingman: Yes.

Q9 **Chair:** The role of interim chair is very specific, and different from the one you now hope to embark on. You committed at the time to staying until 2018, and you described how the role was to get the organisation up and running, and to get it established. Going forward from now, it is a very different role. Do you think that you are as equipped to do the permanent role as you were to do the interim role?

Sir John Kingman: I certainly hope so. You are right that the role is going to be different, because we have been very heavily involved in setting up a completely new organisation and getting the legislation through. We have also had some very active conversations inside Government around the funding of the new organisation, and those conversations have been incredibly successful.

From April, we will be using live ammunition and making all sorts of real decisions. We have many responsibilities, but most fundamentally we have to be good custodians of the very large additional sums the Government have invested in us. We have to spend that money very well, not only because it is a lot of money but, if we do not spend it well, there will not be continued impetus to invest in this area. I think I am qualified to do that, but you are right that it is a slightly different role.

Q10 **Chair:** Fiona, can you describe your vision for the future of the MRC? Are your priorities the same as the currently published priorities for the MRC,



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or do you see new priorities that you want to add or change in the way forward?

Professor Watt: I am in a slightly different situation from John, because the MRC has been running for over 100 years. It has a well worked-out strategy for the future and already interacts with other components of UKRI. What I need to do is maintain the MRC brand, which is very important internationally, while guiding MRC into UKRI and all the additional opportunities.

Q11 **Chair:** You are very positive about the opportunities that will come from being part of UKRI.

Professor Watt: Very positive.

Chair: Be careful because of the person sitting next to you.

Professor Watt: I have only just met him. I am very positive. The thing I really care about sorting out for the MRC is based around people. There are pinch points in academic careers and there are excellent people out there we are simply missing. For example, I am really keen that we should take care to recruit people from BME backgrounds or those who would not necessarily think they could have a science career. In that case, we will be interacting a lot with the Howard Hughes Medical Institute, which has launched a hugely successful scheme looking for excellence where it might have been overlooked before.

Another problem we have is that there are scientists who get the opportunity to establish an independent lab but for whatever reason simply fail to get funding. That means it is like running a race with your shoe laces tied together. In those situations, small amounts of money can be absolutely transformative.

Throughout my career I have always enjoyed working with clinician scientists. It is clear that we have to do more to help clinician scientists who have a massive full-time job in clinic, and tap into that amazingly good resource. Those are three aspects of investing in people that I would like to push forward.

Q12 **Chair:** On the people in your organisation, are you happy about how representative the organisation is in terms of both ethnic mix and gender, or is there work to do?

Professor Watt: Do you mean Medical Research Council staff?

Chair: Yes.

Professor Watt: I have not met them all, but certainly on MRC committees and on the council there is a concerted effort to achieve good gender balance. More could be done to get ethnic balance, but, having recognised that as something we have to work out, I am optimistic we can do it.

Q13 **Chair:** Sir John, can you describe your vision for UKRI? In the shorter



term, do you have a view about where you need to be in the first 100 days?

Sir John Kingman: For a vision for UKRI, I always go back to Paul Nurse's report, which was the original inspiration for setting it up. I think it is as good a statement as any of what we are trying to achieve and why. It said not that the research council structure was somehow broken, but that there was a case for a body to sit over the councils that can be a voice for science, can take a strategic perspective across the system, and in particular can make sure that the interdisciplinary opportunities, which are richer and richer, are being realised. That remains as good a description as you will get of what we think we are there to do. We have to realise that vision.

The new and very welcome thing I would overlay on that is the additional money the Government have chosen to invest in us, which obviously was not present at the time of Paul's report. As I said just now, I feel very strongly the enormous responsibility we have to spend that money well in a compelling way that enables us to go back to Ministers and the Government and say, "You chose at a difficult time for the country to put serious money into this agenda. Look at what we have been able to do with it. You should keep going with this."

Q14 **Chair:** And the first 100 days?

Sir John Kingman: We have been very concerned to ensure that the organisation is ready to deliver from day one. That means all sorts of really basic but very important things about grants continuing to be paid and people getting paid. All those things need to continue to operate. I have a very high level of confidence that that will be the case.

As importantly, for some time Mark and the heads of the councils have been meeting as an executive committee, so in a sense the new organisation is starting to function. That committee is functioning incredibly well at a human level. What we are starting to see, which was the whole point of the idea, are all sorts of ideas in that forum feeding off each other and people saying, "Well, we could be doing this," and so on. If I can put it this way, it has been refreshingly unbaronial. I pay tribute to all the heads of the councils about the way they have engaged with the new structure. It really is working.

Q15 **Chair:** Fiona, the person specification for the MRC position includes "an ability to understand and demonstrate the highest standards of medical research." Do you agree that the highest standards of research include publishing the results of all clinical trials? We had a session yesterday with the HRA. Do you support calls for the HRA to audit whether clinical trials have published results and to compare them with the original proposals? There has been an obligation in place since 2014, widely disregarded by many teams involved in research, yet there is a clear purpose and reason why it is important to have openness and publication of the outcome as well as the proposal. What is your view on all of that?



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Professor Watt: I should say straight up that I have no expertise at all in clinical trials, but openness about data, while protecting patient confidentiality, has to be a good thing. It is very important, no matter what the results are, that they are available, because if you reveal only the results that give a positive outcome that is very harmful.

Q16 **Chair:** Do you accept that we still have a problem and a journey to go in ensuring that everything is published?

Professor Watt: I am not an expert in clinical trials, but I know that in basic science there is a problem that the flashier the result, the more likely it is to be published and negative data will tend to slip down the priority list.

Q17 **Chair:** Often public money is involved.

Professor Watt: Yes.

Q18 **Chair:** I totally understand that you do not have expertise there, but do you give us your commitment that you will treat this as a priority and do what you can to ensure that we meet the obligation that has been there since 2014?

Professor Watt: Yes. To the extent that I have knowledge of this, it seems to me very obvious.

Q19 **Stephen Metcalfe:** Sir John, following on from the Chair's question about the first 100 days, are all the key structures and people now in place ready for kick-off in April?

Sir John Kingman: Absolutely. They are. The one caveat I would give is that there will be opportunities in the new structure to find efficiencies, particularly from bringing together some back office functions, and we have deliberately chosen not to rush those. In the first 100 days, we will not be at the final endpoint of what UKRI can possibly be, because our priority is to make absolutely certain that we have in place a functioning organisation that will deliver. There is a lot more we can and will do over time, but that will take time.

Q20 **Stephen Metcalfe:** But you are ready to face those challenges with the right people.

Sir John Kingman: We are ready.

Q21 **Stephen Metcalfe:** Excellent. The Chair asked earlier about your experience. I recognise that you are not a scientist. I think you have done a fantastic job as interim chair, but the person specification for UKRI states that the person should have "a passion for, and knowledge of, research and innovation." How extensive was that when you took on the interim role, and would you say it has changed in the period? Have you learned on the job?

Sir John Kingman: I would not say it has changed. As I said to the Chair, I have been involved in this area over many years. When I was in



the Treasury, I made it my business to get out and about and visit many universities and businesses. If I was not personally incredibly passionate about the importance of what we are doing, I would not have been the advocate I was in the Treasury and I would not have undertaken to do either the interim or permanent roles.

It is an extraordinary thing to think about what Britain's truly global strengths are. What are the things that in a global context we are outstandingly good at in this country? It is quite a short list, and the extraordinary strength of our science base is right up there. I happen to think that is particularly important in the context of Brexit and so on. Nurturing that and building on it, and the perennial issue of getting the commercial prize out of it, is an incredibly important priority for the country, and is something I love having involvement with.

Q22 Stephen Metcalfe: Thank you, and good luck, if you are fortunate enough to be confirmed.

Professor Watt, obviously UKRI is going to be in place in April. How much do you imagine that your time in the first few months, once you are in post, will be dominated by getting the MRC structures in line with the changes that the creation of UKRI has made?

Professor Watt: That will take time, but as soon as I was selected as the preferred candidate I had the privilege of visiting head office and being patiently briefed by people, and told about acronyms I did not know existed. That has been really helpful. I do not feel that I will walk in on 1 April and it will be completely new. There are people who are leaving naturally on 31 March and working really hard now to make sure that there are no gaps in the portfolio.

Q23 Stephen Metcalfe: There is quite a lot of change to be managed, is there not?

Professor Watt: Yes. One important thing for us is that the scientists we fund should not notice a difference. The website should not go down; it should not suddenly change. We want to make sure that we have continuity for the scientists and the current funding stream; that our staff are configured correctly for what we need to deliver; that we manage a potential move to a new building; and that we make the most of UKRI, which is very exciting.

Q24 Stephen Metcalfe: For the purposes of the record, could you say what your experience is of change management? What experience have you had previously that equips you to integrate MRC under UKRI?

Professor Watt: There are two examples, without going into specifics. In one organisation where people had been paid more the more years they worked, it was to go from that to implementing a single pay spine and, as far as possible, make sure that everybody fitted into that. That was challenging and educational.



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Over the years, I have been in situations where there has been reconfiguration of a faculty, for example, which has meant changing roles, and situations where staff have lost their jobs. I am very sensitive to it. There are ways to do it properly, and as fairly and transparently as possible.

Q25 Bill Grant: Sir John, you have been holding the reins for 18 months or so. Thank you for that. You said in conversation that there was a degree of harmony and synergy between the nine or so councils. How do you envisage interacting with the various councils within UKRI? Do you see that as being left mainly to the chief executive officer and the executive committee?

Sir John Kingman: It is very important that the board generally is engaged with the heads of the councils and the people in the councils. Let me give you an example. We had a meeting of the shadow board yesterday at Harwell in Oxfordshire. The way we decided to structure it was to have the formal board meeting in the afternoon, but in the morning the executive committee—the heads of the councils—met the board. We were thinking, “What topics do we have at the board and what do we have in the morning?” For some of the most important topics we thought we really needed a contribution from the heads of councils. For example, very early in our new life we will want to publish a strategy document. What are the messages we want to get across there? What are the main themes? To do that without the heads of the councils there would have been slightly odd.

Q26 Bill Grant: You bring them on board; they are intertwined, and it is essential for smooth running.

Sir John Kingman: Yes.

Q27 Bill Grant: Will you be able to keep up with any issues that, say, Professor Watt may come across? How would you integrate with the rapid changes in medical research, whether genomics or various other things? Would that be done by contact through yourself, or would you get feedback from your committee?

Sir John Kingman: We said from the beginning that we were not engaged in a process of mashing the councils into one great bureaucracy that would attempt to do everything. I think all the critical expertise on medical research issues is in the MRC and will continue to be in the MRC. The board of UKRI is there to think about strategic priorities across the system, including what budget we recommend allocating to the MRC and the other councils. We will also be thinking about the industrial strategy challenge fund and a whole bunch of possible things, which will often span more than one major area of work, but the key source of national expertise in medical research issues will always be in the MRC.

Q28 Bill Grant: I sense you have no intention to try to bring them all together. I imagine that would be the right way forward.



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Professor Watt, the MRC currently has a chair and a chief executive. Do you have a sense of how your executive chair role might be different from simply being the chair? Where do you fit in with that? The final question on this topic has nothing to do with the goings-on at the BBC. Do you feel you are well remunerated in comparison with others? Don't be clouded by the events at the BBC.

Professor Watt: Is the post well remunerated? I think it is fine.

Q29 **Chair:** Do you get a salary as both the chair and chief executive?

Professor Watt: It is an excellent suggestion for minuting.

Q30 **Chair:** I take it the answer is no.

Professor Watt: On combining the chair of the research council and the CEO, we will have to see how it goes. A lot of MRC governance will shift naturally into UKRI. We have just gone through a process of interviewing potential candidates for the MRC council. That needs to go to the UKRI board, but based on that, I am confident that the members of the council, some of whom have served in the past, are fully engaged in what the MRC is up to. I do not see a disconnect between what the council would want and what, as executive chair, we would want to do. I do not see it as a problem. I do not have experience of the old system, but when I saw how this was going to be structured it did not come up as a red flag to me.

Sir John Kingman: I agree completely with Fiona's description. There will be in each of the councils a senior independent member who is there formally to make sure that, if there are any issues between the executive chair and the board that somehow are not being surfaced, they surface them and we are aware of them and so on.

Q31 **Bill Grant:** This is almost a buzzer round with questions for both of you. When the Higher Education and Research Bill was being debated last year, it was suggested that there was an issue about tension between UKRI in its UK-wide role and its England-only role. To what extent do either of you see that as continuing? We have to establish whether in the first place you think it was a problem. If it was, do you see it as a continuing problem?

Sir John Kingman: You are right; there was a concern in Parliament around that. When I have been in Scotland, I have occasionally heard that concern being raised, although I think it has diminished. As I understand it, the concern is that in UKRI there are eight UK-wide organisations and one English organisation, Research England. There was concern, particularly in Scotland, that that was a bit lopsided and somehow the councils would end up with more of an English perspective.

It is important to say that Scotland in particular more than punches its weight in winning research funding, because it is very good at research, but the name is on the tin: UKRI. We are a UK-wide organisation and we



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have to be a UK-wide organisation. We have to think like that, and I believe we are.

Q32 Bill Grant: Thank you for your comment. We have been quite innovative in Scotland with the telephone, television and penicillin; we are noted for our innovation.

Professor Watt: I have to declare a 75% Scottish genome. The MRC has always funded excellence wherever it is. MRC staff have a systematic approach to visiting and explaining new initiatives all over the country, and that is very important. No matter where you are carrying out research, you should have equal access to information and facilities.

Bill Grant: Between the two of you, my final point has been answered, which is that things be dealt with in an even-handed way throughout the United Kingdom. I would welcome that.

Q33 Carol Monaghan: I was one of the Members who raised the concern over that particular issue during the passage of the Bill. I suppose we have to accept at face value that research excellence will be funded properly, as it is now, but an added element is infrastructure funding. It is not just about the funding of research; it is also about funding of the infrastructure to enable research groups and teams to develop. Sir John, how do you see UKRI taking a role in infrastructure development that is not centred around the golden triangle?

Sir John Kingman: You are completely right; there are some institutional complications, in the sense that the dual support system in the devolved countries, including Scotland, has one leg that is the responsibility of the devolved Administration. In the case of Scotland, the Scottish Funding Council has an important role in funding infrastructure. Fortunately, I have seen at first hand the really strong relationship between the Scottish Funding Council and Research England. Indeed, the Scottish Funding Council asks Research England in a sense to subcontract some of the work they do analytically to help them do that.

For the first time, we have launched a process to do a proper, bottom-up assessment of Britain's scientific infrastructure and where the exciting opportunities are, where the pressure points are and where investment is needed. That is clearly a completely UK-wide exercise. We will be talking extensively to stakeholders around the UK about that. It is very important that everyone engages in it because, in debates with the Treasury, or when thinking about the critical priorities in the system, I want to avoid, frankly, the experience I used to have in the Treasury when from time to time a bit of money was found at the bottom of the sock. The Chancellor of the day would say, "Maybe we should do something on science," and everyone would run around frantically thinking about what they should do with that X hundred million. Our job is to make sure that there is a proper piece of work that says, "Many of the things in which we can invest in the scientific infrastructure look like this, and the pros and cons of all the various options are these," so that



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when choices are made they are based on serious work, rather than slightly more random and rushed political processes.

Professor Watt: As infrastructure, are we thinking of large free-standing bits of equipment or buildings?

Q34 **Carol Monaghan:** I am thinking of the Crick at the moment.

Professor Watt: I do not see the Crick being moved. It is very important for individual scientists, who outline, and are funded to conduct, a piece of work, not to be restricted because the facilities are inadequate. My own experience of running research is of seeking the best partner, whether commercial, a university or elsewhere, to make sure that the work is done to the highest quality. Sometimes, brokering relationships like that, and making it easy to do the best piece of work, can be done by exchanging knowledge. All the proteomics I have ever done have been in Dundee. I would not think to do it anywhere else.

Sir John Kingman: The Government have set a very ambitious target of R and D being 2.4% of GDP. It is a good thing. I do not believe we have any chance of achieving that if all we invest in is a triangle bounded by Oxford, Cambridge and London. There are clustering effects in what we do, and we would be crazy not to back the high-quality clusters we have in this country, but not all of them are in the golden triangle. Indeed, Scotland is itself one of the big centres of expertise in a whole bunch of scientific areas.

Q35 **Chair:** You want to search out, and build on, excellence in other or poorer regions of England as well.

Professor Watt: Absolutely.

Sir John Kingman: One of the things we are choosing to do with the additional money is to create something we think of as a places fund—a completely new intervention. The philosophy with which we are approaching that is precisely, as you say, to look out for promising potential areas around the country, certainly outside the south-east, and back them financially. The philosophy we approach this with is based on competition. We are looking for genuine potential excellence to back. That is a very exciting intervention and one the board will take a very close interest in. It is new, and could be one of the most important things we end up doing.

Q36 **Carol Monaghan:** That sounds wonderful and exciting. It sounds as though you have a vision for how science is going to develop. I would love to see somebody taking the bold step of saying, "This area could really do with a huge amount of investment, so let's build an institute like the Crick in the north of England, or in Scotland, or Northern Ireland. Let's put in the infrastructure and the scientists and researchers will come to it," rather than doing it the other way round. Doing it the other way round means that people remain in those places. I would like to see you in this new role being bolder about where we develop infrastructure.



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Sir John Kingman: I will come most of the way with you on that. The only caveat I would give is that I do not think we would be going to a place that did not have some existing opportunities and people who were doing interesting work in a particular area. We would like to turbo-charge those people and places.

Countries have experimented with spreading science money very widely around. Germany went through a phase of doing it. In a way, the UK did it in the RDA phase under the Brown Government. There was a phase when famously every RDA wanted a biotech cluster. In the end, the UK will not have that many biotech clusters, so we have to make choices.

Q37 **Carol Monaghan:** But you could have a biotech cluster, a photonics cluster and a space cluster.

Sir John Kingman: Totally. My only caveat to what you said, with which I agree, is that we should focus on places that have something we can build on.

Chair: Martin, your moment has come, after great patience.

Q38 **Martin Whitfield:** It was very interesting. To pursue the point made towards the end, in a sense, what you are looking for is not to plant a seed, but for saplings to develop. If that is the case, particularly thinking about dual funding, at the minute we are in a position where a lot of people are advocating happiness about the funding aims. Would you like to hypothesise on what the effect might be on Scottish and English universities if there was a change in that funding? Do you think there is a balance risk?

Sir John Kingman: I am not concerned at present about any threat to the dual support system. I am a very strong believer in it and always have been; UKRI is very strongly in favour of it. Ministers have set out quite clearly in the industrial strategy document that they will continue to invest through QR, which is the second leg of the system, and there is a very powerful case for that.

The case is partly that any bureaucratic system of allocating project funding will never be perfect, and we should give high-quality institutions some money that they can choose how to invest. It is partly that we have a very important responsibility to concern ourselves with the sustainability of the system. I am old enough to remember when the system was being seriously run down because it was overtrading as a whole. Please take it as read that I am a wholly signed-up supporter of dual support, but I am not currently concerned that there is any serious threat to it.

Q39 **Martin Whitfield:** Do you envisage any reassessment of how much money the research councils will get? If so, how are you going to ask them to bid for their money?



Sir John Kingman: The main mechanism through which we are allocating the additional money is the vehicle called the industrial strategy challenge fund, which will be a large one. Each of the challenges we are focusing on needs to be an area where two things are simultaneously true: one, that we think there is some really great British science we can invest in; and, two, that we think there is a genuine commercial opportunity for the UK. We have announced two waves of challenges so far. They are in the public domain and they span a wide variety of disciplines.

At the moment, certainly in relation to that money, we are not saying, "You know what, we just think that somehow medicine is more important than social science." It has been more a process of identifying the really exciting challenges in which we would like to invest, and all of them involve a number of councils.

We think that we will have a strategic fund. This was something Paul Nurse recommended. It will be smaller than the industrial strategy challenge fund, but it will enable us to put some money directly into research councils if there is a really pressing issue. For example, there may well be issues around making sure that we have the computing capacity we need in particular areas, or whatever. Councils will come to us and say, "Broadly, we can live within our budget, but we have a really pressing issue here." We need a mechanism beside the challenge fund through which we can deal with those issues when they arise.

Q40 **Martin Whitfield:** How well developed is your mechanism for adjudicating those bids?

Sir John Kingman: In all honesty, it is getting more sophisticated. When we allocated wave 1 of the industrial strategy challenge fund, we had to do it at some speed. We were in the very happy position that the Government had announced a large amount of money, but we needed to make sure that we had some challenges that were sufficiently well developed that we could invest in them. A good example would be the Faraday battery challenge to which a lot of thought had been given by various parties. That was clearly a compelling idea that we felt comfortable investing in.

We did not have time, for wave 1, to do a full-dress competitive process involving stakeholders and so on. One of the things that is maturing as time passes is that those processes can be more sophisticated. We have engaged with more stakeholders. There are gaps. To give an example of a gap, I am a little disappointed that we have not so far been able to find exciting opportunities to invest in the social sciences through the industrial strategy challenge fund. That is a source of frustration, because Britain is incredibly good at social sciences, and in a service-based economy it is hard to believe there are not some interesting opportunities. The new head of the ESRC, Jen Rubin, has all sorts of excellent ideas. I think we can put right that gap. As time passes, the processes will get better.



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Q41 **Martin Whitfield:** Professor Watt, do you want to take the opportunity to pitch for some money? Do you need more money?

Professor Watt: Get your cheque book out. It is so hypothetical for me at the moment. I know what the current budget is; I know there has been an uplift and how it has been spent. This sounds consensual and sensible to me. The industrial strategy challenge fund could not be delivered by one research council. I am confident that we will start the process. If it needs tweaking we will do that, but the most important thing is making sure that we all have the same goal or objective.

Q42 **Martin Whitfield:** From your experience, how well do you think the innovation environment is working for the sort of research you do?

Professor Watt: The research that is very close to my heart is the field of cell and gene therapy. I am stepping down as non-executive director of the CGT Catapult. It is a challenging area. What has been really important is the tremendous success of cancer immunotherapies. Ten years ago, very few people were interested in them; it was very hard for researchers to get funding for them, but now they are working. This is very good because it shows the commercial sector that there is money to be made. Britain has been in the gene therapy research space for a long time, and just now we can see that it is starting to work.

Q43 **Martin Whitfield:** It is starting to have commercial interest and success.

Professor Watt: Yes. Thinking specifically about the Catapult, which is Innovate UK-funded, the new facility in Stevenage that is being built looks very promising. We were worried that we were opening a boutique hotel with no guests, but it appears to be filling up nicely. For me personally one of the great things the Catapult has done was to organise Dragon's Den workshops where we can talk about the things we would like to do. Instead of being very linear and saying, "We will do this, this and this," we are talking to people who have commercial expertise, and being brought together is hugely useful. It has the spin-off effect that the young scientists in my team who are involved in those conversations get educated. I believe they are going to be much better equipped to understand the commercial opportunities. Cell and gene therapy looks promising. We are not there yet, but that Catapult in particular has been a big success.

Q44 **Martin Whitfield:** Sir John, having listened to that example, where we are talking of a period of 10 years-plus to see the commercialisation of what used to be called blue skies thinking, do you think you would be able to bring the flexibility to UKRI to nurture it over that period of time? I think I am asking about the balance between innovation and research.

Sir John Kingman: Absolutely. We will continue to invest very heavily in basic research, which is the bedrock and strength of the UK system. It remains the case that Britain is staggeringly good at generating high rates of citations and brilliant papers in *Nature*—indeed Nobel prizes. That is very precious and important, but we do not quite see the commercial



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result. It is not as simple as saying, "Maybe we should invest in a bit less basic science and pour some money into applied science." One thing we know from experience is that getting that prize is not a simple thing.

A number of the Catapults, not all, have delivered exciting results. There was a lively debate in Parliament about whether or not Innovate should go into the new structure. I believe very passionately that it should. It would have been a huge mistake had Innovate not been in. The best example of that is that the whole idea of the challenge fund came from Innovate. As I said earlier, we will be looking for areas where we can do two things at once: some great science and the commercial pull-through. It would not have happened if we did not have both the research councils and Innovate feeding off each other.

- Q45 **Chair:** Sir John, do you see a real opportunity to invest more in interdisciplinary research? One of the potential prizes of UKRI is the ability to bring disciplines together. If you do, is it something that you and Sir Mark will be driving yourselves, or will it be based on ministerial steers given to you?

Sir John Kingman: We will be strongly encouraged by Ministers to do it, but they will not need to encourage us, because we believe in it and, most importantly, so do the heads of the councils. The structures we have been able to put in place, particularly the challenge fund, enable us to do things that are new.

- Q46 **Chair:** I guess the grand challenge is in the industrial strategy recognising the importance of it.

Sir John Kingman: Yes. To be fair, I do not think that the research councils are somehow resistant to interdisciplinary work. It is a matter of facilitating it, encouraging it and rewarding good ideas. The opportunity from the new money makes such a difference, because it means that when somebody comes forward with a new idea you do not have to say, "That's a really interesting idea, but we would have to cut out this area of brilliant science that otherwise we are funding." This is the moment to get it right and do it.

- Q47 **Chair:** Fiona, is that something you embrace?

Professor Watt: I do. One problem with interdisciplinary research is that sometimes it does not fare very well in peer review, because a scientist who knows about topic A will say, "That is not as well developed as it could be," and a scientist who knows about topic B will say, "Well, that is not perfect," whatever it is. Interdisciplinary research works wonderfully well, and, with the focus on it through UKRI, it will not be difficult to stimulate. It is just that historically scientists are sometimes too stuck in the disciplines they know. It is easy to criticise something that seems a bit outside your own specialty, but cultural change is already under way.

- Q48 **Chair:** Sir John, with the extra money, as we head towards the 2.4% target, do you envisage that the bulk of it will be spent in UK-based



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research, or will some of it go into the global challenges research fund? I guess it is something to do with demonstrating that we are hitting the 0.7% target with the additional money through that route in, I think, 2016. How do you see this going forward?

Sir John Kingman: The global challenges research fund has been a huge success. You are right that the inception of the global challenges research fund was heavily influenced by realisation that, under the statistical classification rules, research conducted in this country that is of benefit to the developing world scores as ODA. Let's be clear: notwithstanding the fact that that was an important influence in the creation of the fund, it has funded incredibly good work, including some brilliant interdisciplinary work, and that will continue. To be clear, the research funded through the GCRF is generally occurring in this country, but the criterion is whether it will benefit the developing world.

Q49 **Chair:** Do you think some of the extra money will go through that route?

Sir John Kingman: Probably some, but I do not feel under—

Chair: Pressure.

Sir John Kingman: Artificial statistical pressure.

Chair: Nicely put.

Q50 **Carol Monaghan:** The Higher Education and Research Act introduced last year invokes the Haldane principle explicitly: "The Secretary of State must have regard...to the Haldane principle." How much of an issue do you think ministerial involvement in research plans will be?

Sir John Kingman: It was a very good thing that Parliament put that provision in the Bill. That was a first. It has been understood as a convention in Britain for a long period, but that protection had never been put in law, and that is not a small thing. There are other provisions in the Bill that are relevant as well. Ministers are required to pay attention to our advice. They are not required to take it, but they are required to listen to it at least, on issues such as the budgetary allocation between the councils and so on.

It is important to understand that the Haldane principle does not say, and has never said, that Ministers must have no involvement in choices about research priorities. They are not to have any involvement in individual research project funding decisions, but they have always had some involvement in the big budgetary allocation choices across the system and in major capital project decisions. That has always been the case and I think it will continue to be the case.

The creation of UKRI means that those decisions will be informed by formal advice from quite a serious bunch of people, but it will, I hope, be based on very serious work. That slightly changes the nature of the process from what was, based on my experience of it from my previous



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life, a much more informal system. I am not saying that Ministers will always take our advice; they may very well not—

Carol Monaghan: Surely not.

Sir John Kingman: —but it will have to be there.

- Q51 **Carol Monaghan:** Let me probe a bit more. Let us say that, rather than taking a broad overview, a Minister became involved in a particular area of research and started interfering or showing too much interest in, for example, regenerative medicine. Would you see it as being within your remit to tackle that, or would you be more likely to leave it to someone like Professor Watt?

Sir John Kingman: Mark and I, and indeed the board of UKRI, are quite clear that we are the protector of the principle, and we understand its spirit. It is not unreasonable for Ministers to say, “We have an industrial strategy. The automotive industry is very important to us. We would like to make sure that we are prioritising research in relation to batteries, which will be very important for the strategic future of that industry.” That is perfectly legitimate. If we thought Ministers were crazy, we would have that debate with them, but I do not think there is anything improper about that.

Under the Haldane principle, the rubber would really hit the road if you were ever in a situation where a Minister thought a particular area of research was politically inconvenient, which in some areas of the social sciences you could imagine. I have been involved in this area for 20 years and have not actually hit a case of that kind.

- Q52 **Carol Monaghan:** No over-enthusiastic Ministers with particular hobby-horses.

Sir John Kingman: Personally, I have not hit any case of Ministers saying, “I really don’t want you to research this area because the answers might be inconvenient.” If they did that, the provision in the Act would become quite relevant.

- Q53 **Carol Monaghan:** You would be happy to challenge them on that.

Sir John Kingman: I think the UKRI board needs to be the conscience of the principle.

- Q54 **Carol Monaghan:** Professor Watt, have you ever encountered overbearing Government interest—I won’t call it interference—in research you were carrying out? I will start with that.

Professor Watt: The short answer is no. Before coming here, I tried to think about specific Haldane principles that have affected me. One thing I was involved in early on was when it was discovered that you could create cell lines from human embryos. Of course, that was a subject of great importance, and it was debated and legislated on, as it should be. In that case, it is only proper that decisions like that should be made in



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Government, but if something is within the law we would definitely not expect to have lobbying to say we should not be doing it.

It is always good to exchange ideas with non-scientists, whether or not they are Ministers. I personally do not have any trouble with somebody lobbying for a particular disease or charity that is their personal interest, because it is a dialogue and it informs us.

Q55 Carol Monaghan: You see that as potentially beneficial. To get specific again, what if a Minister showed a particular interest, or wanted more research carried out, in dementia, for example? How would you deal with that?

Professor Watt: Having an interest in it and wanting to understand what the MRC is funding in the area is absolutely fine, but it is not fine to say, "Sorry, you're doing it all wrong and you should do it this way because I am a Minister with an interest in that particular area." In my limited experience, the interactions I have had with politicians have been very informed and intelligent, so I find it hard to believe that one person could contaminate the whole Haldane principle in Westminster.

Carol Monaghan: Strange things happen in Westminster.

Professor Watt: Yes, of course, because we are all human. I was very impressed with the experience of the Human Fertilisation and Embryology Act and how regulation for IVF was already in place and could be used by Government to regulate work on embryonic stem cells. I can tell you that we were the envy of every other country in the world. People really thought that we did a great thing. I would be optimistic at this early stage that you are more likely to get benefit from that interaction than interference.

Carol Monaghan: Thank you.

Q56 Bill Grant: Sir John, in recent times you advised this Committee, and your thoughts were that the UKRI should be part of the Brexit conversations. Dare I bring that subject to the fore? Has it been part of the Brexit conversations? Is there anything you can share with us that you have found from the community in respect of Brexit, whatever the outcome may be, and have you engaged with Ministers in that regard?

Sir John Kingman: Absolutely, yes. Brexit has very important potential implications for British science. The scientific community generally is nervous about the implications of Brexit for British science, and there are two critical parts of that. One is future eligibility for European research funding and participation in European research partnerships. The other is all the issues around free movement of people—the ability of talented researchers to continue to come here. Science is, after all, a very international business. The only thing I would say is that it is completely clear to me that the UK Government at the highest level understand the importance of science in these issues, and if you look at the Prime



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Minister's statements you will always find science in them prominently. I find that thoroughly encouraging.

On the issues I have mentioned, obviously there is a lot of detail. In the case of issues around research funding, there is, frankly, a huge amount of good will on both sides to find some way in which the UK can continue to participate. Obviously there will be a financial negotiation, but certainly all the signals we have had from Brussels are that the European scientific community values the participation of the UK. There is a debate about the terms on which we do that, but, as a general matter, I think everyone involved in the conversation understands that we would be better off finding a new model under which we can continue to participate.

In the case of free movement of people, there will be a lot of detail. That will be as much a matter of domestic policy decision making as international negotiation. Have we been involved? Absolutely. Mark has had many conversations with Ministers about it. There is an important group that the Science Minister chairs in which we participate. It is important. Are we part of the conversation? Yes, we are.

Q57 Bill Grant: You have answered my next question, which was about the main Brexit issues from a science and innovation point of view. I sense they are funding for the future and the relatively free movement of—how would you say it?—high-end researchers, people with skills.

Sir John Kingman: High end, yes, but high end does not just mean grand.

Q58 Chairman: PhD students.

Sir John Kingman: Absolutely. The younger researcher, and so on, can be just as important.

Q59 Bill Grant: The energised ones with the bright ideas.

Sir John Kingman: Clearly, we would like to do everything we can to ensure that the case for researchers at all levels to continue to move is understood.

Q60 Chairman: You impress on Ministers the importance of that, do you?

Sir John Kingman: Yes, but to be fair, BEIS Ministers unquestionably understand that. I have not personally had direct involvement with Home Office Ministers, but I know that BEIS Ministers have had extensive involvement with Home Office Ministers on that. If you look at the Prime Minister's statements, she has several times said that she understands its importance.

Q61 Bill Grant: If I could continue on that theme, the Prime Minister has indicated on more than one occasion that she would like a bespoke arrangement with the EU in relation to research. In the unlikely event that that good relationship does not materialise, where would we look for



arrangements? How would you fill the gap, so to speak? Would you look to engagement with other countries or other arrangements in that unlikely event? Would you look to Canada?

Sir John Kingman: We have important relationships with countries that are not in the European Union, but we want rich and deep relationships with the European research community and the international research community. Whatever happens in the Brexit conversation, and whatever the financial arrangements, we want to do everything we can to maximise the potential for collaboration and co-operation across borders, both with Europe and internationally. At the moment, I have a high level of optimism that a solution will be found within the framework of the wider negotiation.

Q62 **Bill Grant:** Thank you for that. Professor, do you want to add anything?

Professor Watt: No. It is about people—a welcoming place for the best scientists to do their research—and collaborations that make research go better.

Bill Grant: Thank you. I am conscious of the time, Chair, but can I have a quick supplementary?

Chairman: Yes.

Q63 **Bill Grant:** It is based on two comments that were made earlier. I like the word “Catapult”—that you launch something for the future. It was very good and I picked up on that. I also picked up on the Dragons’ Den idea.

This is a basic question. It is particularly on innovation, as I do not see it in medical research, although you never know. How do we find our way to the garden-shed inventor or innovator, or the kitchen-table inventor or innovator? Thinking of “Dragons’ Den,” what systems are out there and how can we bring those people to the fore? I am thinking of the wind-up radio that serves the African continent well and of Dyson, and the perseverance with this. How do we bring these innovators to the table? How do we help them with this big budget that we have?

Sir John Kingman: One of the things that Innovate UK does is precisely that. They give grants to inventors. I do not know whether they would thank me for saying garden shed, but—

Bill Grant: You can credit me with garden shed.

Sir John Kingman: There are individuals with ideas, and the money is important, but probably as important is the support that Innovate gives in relation to helping that person form a business around their idea. There are many great ideas out there. What we can turn into a successful business is a subset. Innovate has a number of programmes in this area that it has been operating for some time. They have been evaluated and they deliver very good economic results for the country.



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Bill Grant: Thank you very much.

Q64 **Chairman:** Before I bring in Martin for the final set of questions, there is one final question on Brexit, Sir John. The key issues you talked about were the collaboration, the money and the people. I met with the Russell Group European group this week, and they also stress the sense of urgency about this—the fact that we cannot leave it a year or 18 months before we get a deal in place on, for example, whether we are going to be part of the successor to Horizon 2020. Do you share the concern that an early agreement on that is very important to give certainty and clarity to researchers who are starting to map out their plans for potentially bidding in the next round?

Sir John Kingman: This gets quite a long way above my pay grade in the sense that—

Chairman: I am testing you.

Sir John Kingman: Science inevitably forms part of a wider negotiation and there are tactical judgments that I am not privy to about that. From a scientific point of view, I completely share the perspective you have described—the point being, as you say, that there is uncertainty, and uncertainty has a cost because individuals have choices in life. They have choices about where to locate and when they get job offers or whatever. From a scientific perspective, the sooner this can be resolved, the better.

Q65 **Martin Whitfield:** To go back slightly, to talk about the industrial strategy again, did you have any input into the top-level challenges that were decided on?

Sir John Kingman: Did I have any input? Yes, in the sense that I was part of the conversations that Mark had with Ministers. In all honesty, my involvement was more in the earlier discussions with the Treasury and No. 10 about putting the case for the money in the first place, and for the whole idea of the industrial strategy challenge fund as a concept. Frankly, I do not think I am the best person to decide whether we should be doing this much on satellites and this much on healthy ageing.

I said to the Chair at the outset that I am not and do not pretend to be a scientist. I am the non-executive chair of a board, and, by the way, it is an outstandingly good board with lots of deep experts and very experienced people on it. I would not pretend that I have personally added a huge amount of value on the choice of topics. I hope I have contributed the odd layperson's question, but my personal contribution has been more around making the case for the money in the first place.

Q66 **Martin Whitfield:** Obviously you see that those decisions will have a very direct effect on the research funding that is allocated down the line, and you see no problem in that. In fact, you see it as a positive.

Sir John Kingman: What we are doing is distinctly different from the way in which the UK system has historically operated; we are building it



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on top of a strong system that is continuing. I do not believe that we would have won the additional money if we had simply said to Ministers, "Give us a ton of money. We'll chuck it at the research councils and hope for the best." I think they found much more compelling the ideas that we were putting forward, but that is good because we are doing something important.

It needs to be understood that not all the challenges are going to work. Indeed, they are all quite ambitious. Many of them are in areas where our international competitors are investing much larger sums. One of the responsibilities of the board, which we talked about at the board yesterday, is to be willing to take the tough decisions, 18 months in or whatever, that developments in an area of technology have outpaced us and, just because we made an announcement 18 months ago, we should not be unwilling to make changes. We should be willing to say, "We don't think this area is going to be delivered, and we are not as optimistic as we were at the outset." We should not do that lightly, obviously, but we need to be willing to make choices and say, "You know what, this one is just looking fantastic and we are going to move some money into it." I suppose I see my job as chairman as not so much picking the areas but making sure that the board does its job of asking itself that hard question.

Q67 Martin Whitfield: If I could just bore into that element of the decision, from your point of view, which is going to drive it more, the basic research or the commercialisation? I am thinking back to the genomics discussion.

Sir John Kingman: It is totally impossible to say, but, personally, I think it is more likely to be that developments in an area of technology mean that something that looked a promising idea, not in terms of the quality of the science but in the likelihood of there being an economic prize for the UK, just does not look realistic any more, for whatever reason.

Q68 Martin Whitfield: You will certainly be looking for an evidential base to those decisions.

Sir John Kingman: Yes, including in real time. In each of these areas, these challenges, there will be a challenge director who will be personally responsible for the way the money is spent, answering to Mark and the board. One of the things I want those people doing is having, in real time, an intelligent view of what is happening in the wider world in their space. Mark will need to challenge them on the idea that looked great a year ago but where something that Tesla has achieved in California, or whatever, means that the world has moved on. That will sometimes happen.

Q69 Martin Whitfield: Thank you. Professor, having heard that, do you see a potential conflict for research at the MRC? Do you see a potential problem or are you still confident that the future is bright?



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Professor Watt: I am confident that the future is bright, provided that we do not suddenly slash all PhD places for MRC-funded students to pursue a challenge that might fail in 18 months. I found it interesting that a comparison was made with DARPA funding in the US.

One of my colleagues leads a programme to create all human organs in a petri dish and join them up. That is the kind of project that, for basic scientists, sounds like, "Yes, let's do it." They have done it. What has been interesting is that it has, for example, shown that mice are not a very good model for certain human tissues. It has stimulated the interface between basic science and people who have interesting clinical specimens—disease modelling. Not surprisingly, companies are coming in and saying, "Well, if this artificial lung is so great, shouldn't we be using it to test drugs?"

That is a very specific example, but in that case I would say that it started with basic science. It seemed a bit mad at the time, but, by assembling groups of people who bought into the mission, you can see how the innovation and drug discovery spun out from that. I can see that it can work.

Sir John Kingman: The critical point is that we could only possibly sensibly do that with additional money. As I said earlier, if the proposition had been to eviscerate the heartlands of British science to have an experiment of that kind, I think it would have been a crazy national choice, but with the new money it is possible.

Martin Whitfield: Thank you.

Q70 **Chairman:** There is one final quick question from me for you, Fiona. The other Sir John in the room, who hosted a very excellent presentation of MRC work here in Parliament last week, stays on until September, as I understand it. That is what the MRC website says. Can you clarify the arrangements for handing over, as you understand them to be, if you understand them?

Professor Watt: I thought he was leaving on 31 March.

Chairman: There you go. There is nodding from a sedentary position, as we say in this place. I should place on record our thanks to Sir John as well, while we are at it, for all the work he has done with the MRC—the other Sir John. It is getting confusing now.

Sir John Kingman: Could I say one last thing?

Chair: Yes.

Sir John Kingman: One concern that some people had when the Act was going through the House was that in creating UKRI, whatever good things might come out of that, we would run the risk that we would not be able to attract good people to lead the individual councils, and that somehow those jobs would be downgraded and people would not want to



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do them. Sparing Fiona's blushes, that has decisively not been the case. It is not just Fiona, but Jen Rubin at the ESRC and Mark Thomson at the STFC. We have very strong fields for the BBSRC and the EPSRC. Someone who is in a position to know commented to me that the field we had for the MRC leadership was as strong as it has ever been.

There are a number of reasons for that, including the new money, which is great, but the point I wanted to make was that the evidence is that, far from our not being able to find good people, we have been able to find really good people to do those jobs. One of the reasons is that we are, in the new structure, able to say honestly to people that the jobs will be more about strategic choices and less about process administration than has been historically the case, and I am delighted about that.

Q71 **Chairman:** That is because you are freed up from that to a degree.

Sir John Kingman: A little bit, yes, and I am thrilled that we have attracted someone of Fiona's calibre.

Chairman: Thank you very much for that endorsement of all the people involved. Thank you both very much indeed for your time. It has been a fascinating session. We appreciate the time you have spent with us, and we will confirm our position very quickly. Thank you.