HOUSE OF LORDS

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Inquiry on

EU MEMBERSHIP AND UK SCIENCE FOLLOW-UP

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11.20 am

Witnesses: Professor John Womersley, Phil Smith and Professor Dame Julia Slingo, OBE

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Members present

Earl of Selborne (Chairman)
Lord Borwick
Lord Cameron of Dillington
Lord Hennessy of Nympsfield
Lord Mair
Lord Maxton
Baroness Morgan of Huyton
Baroness Neville-Jones
Lord Oxburgh
Lord Vallance of Tummel
Baroness Young of Old Scone

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Examination of Witnesses

Professor John Womersley, Chief Executive, Science and Technology Facilities Council (STFC) and Chair, European Strategy Forum on Research Infrastructures (ESFRI), **Phil Smith**, Chairman of UK & Ireland, Cisco, **Professor Dame Julia Slingo OBE**, Chief Scientist, Met Office

Q35 The Chairman: May I extend a welcome to Professor Womersley, Phil Smith and Professor Dame Julia Slingo—welcome back in your case. You probably heard some, if not all, of the last session and you know we are revisiting the report we did before the referendum. We are being televised. For the record, starting with Phil Smith, please introduce yourselves and if you would like to make an introductory statement please feel free to do so.

Phil Smith: Good morning. I am Phil Smith, chair of Cisco in the UK and Ireland. I am also a chair of Innovate UK and have been for the last four or so years. Additionally, I chair a skills-based organisation, the Tech Partnership, focused on STEM skills in the industry. I will not make any introductory remarks because it seems a number of them are covered.

Professor Dame Julia Slingo: I am the Met Office chief scientist. I also serve on the High Level Group of the European Commission's Scientific Advice Mechanism. I am a member of NERC's council and a fellow of the Royal Society, where I work on the science policy advisory group and on a new group that has been constituted to look at the effects of Brexit.

Professor John Womersley: I am John Womersley, I am chief executive of the Science and Technology Facilities Council, which is the UK research council responsible for large research infrastructure. I will be stepping down from that position at the end of October to become director-general of the European Spallation Source, which is a European intergovernmental laboratory for material science being established in Sweden, so I can address questions with that hat on as well if you wish. Until recently I was chair of the European Strategy Forum on Research Infrastructures which is a Europe-wide priority-setting and strategy forum for large research projects.

Q36 The Chairman: Thank you very much. Perhaps I may start with a general question, which is really directed to Phil Smith as he might be said to be representing businesses based in the United Kingdom. What impact will Brexit have on science and technology businesses based in the United Kingdom? Is the UK still a good place to do research-intensive business, and are there any specific steps you would like to see the Government take to make sure it stays an attractive place to do research?

Phil Smith: Clearly, there is some way to go in this particular discussion. Obviously much of what has been discussed already today has been discussed over previous months, about the position where the UK ends up, but I think the fundamentals are still important. We have a strong university sector, we have good collaboration right across the ecosystem not only of science in the universities but of the innovation system in businesses; they are well tied together in the UK. There is more to be done and that has some potential challenges as we go forward; we have to make sure we sustain that whole ecosystem and not just particular parts of it. That is important. It is still a fundamentally good place to do business. If I look at a business such as Cisco, clearly we have choices. It was a Californian company originally which invests widely around the world, and we have to be concerned not only at the absolute things we do but about some of the subtleties in the messaging that start to appear in this sort of environment, where a company can make choices about where it invests. I do not think the fundamentals are any different and we have strongly said we will continue to invest in and support the UK, but there is the danger that some of those smaller messages will be uncertain for a period and can have challenges in the short term. They may manifest themselves later as well, but in the short term until certainty is established it means people who are one step away may not have a complete picture of what is happening in the UK.

Innovate UK and the support it has from the Government to translate science into innovation and technology is a powerful vehicle and we have to continue to support it. Of course the world is changing around us here, because not only are we in a post-Brexit world but we have the formation of UKRI and the change in some of the funding vehicles that Innovate UK uses itself away from purely a grant-based environment. So there are a number of changes and we have to keep some simplicity and clarity on these and some of the areas the Government have to focus on are exactly that.

I have been at four or more sessions where industry has been asked to give feedback on what the key issues are in this post-Brexit world and they broadly come out as three things. There is talent, which has been discussed already today, particularly talent not just in terms of people coming into the UK but our ability to export products and services and people and flexibility of movement of people, which is extremely important to industry in general and certainly to the digital industry. We have seen issues around regulation, and again that plays particularly in the digital industry, for example in the generalised data protection regulation which comes into force. We will talk about privacy and so on. Is that going to be just what we do in the UK or do we have to do more? People are uncertain about that already and we are hearing a number of examples where customers have been advised not to build facilities in the UK because lawyers are saying they do not know what the ultimate position will be on data privacy. Then the final part, which is coming out consistently, is funding and support for ongoing funding, particularly for collaboration because that is one of the things that was rightly said in the last session that academics naturally do. The EU programmes—Horizon 2020 and the various programmes that Innovate UK runs—are predominantly vehicles for providing collaboration. Of course they provide funding but they are about getting people

together to do things. We have to keep the faith on that and be clearer about that as quickly as we can.

The Chairman: Following that up, could I ask Professor Womersley, with the creation of the new UKRI and the need clearly to determine new strategic priorities for UK research, to what extent UKRI is fit for that objective?

Professor John Womersley: It remains to be seen because many details of UKRI still need be fleshed out. The Bill has yet to reach this House and is making its way through Committee in the House of Commons. I know members of the science community are hoping that the new CEO and chair of UKRI will be strong advocates for science and research, in particular explaining what science and research needs the Government to negotiate in the context of Brexit. That will require that UKRI is given sufficient independence to challenge government, if necessary, on these priorities; to make the points Mr Smith was making about talent, for example, which feeds in to any future immigration restrictions and so forth. In principle, the creation of a single body to speak for all the science research and innovation system is a good way to get these points across, as long as it is in place in time to influence things on the timescale that is needed.

The Chairman: Does Dame Julia want to add anything?

Professor Dame Julia Slingo: Just to emphasise that the timing of the formation of UKRI is in some ways quite fortuitous because it allows us to take a new look at the whole research landscape in the UK and our relationships not just in the UK but internationally, and to bring together Innovate UK with the research base. Indeed, yesterday I met John Kingman to discuss how we and other players in the research landscape beyond the research councils—thinking specifically of the public sector research establishments such as ourselves and the National Physical Laboratory, and indeed third-party research organisations—can use the creation of UKRI to understand the richness of the UK's research landscape and see how we can best use that in the future to maintain our position in the world of research. So the creation of UKRI is a real opportunity at this moment when we are thinking about where we are going on Brexit.

I would also make a very general comment, and it is really quite obvious, I suppose. The formation of the department in which you bring together business, energy and industrial strategy alongside the research base is also a very good signal of our intent on where we as a country want to go, which some of the previous people who spoke to you this morning touched on. There are some real opportunities here which we have not had in the past that are very timely.

Q37 Lord Mair: I want to ask Professor Womersley more about research infrastructure—some of these very large facilities that exist both in the UK and in Europe. What do you think will be the effect of Brexit on those as far as the UK is concerned?

Professor John Womersley: This is a question that is best answered in stages. The European Union itself invests a certain amount in research infrastructures through its own Joint Research Centres, but only a few per cent of what Europe spends globally on large research collaborations is spent by the EU. The UK's membership of international treaty organisations—CERN, the European Space Agency, European Southern Observatory, the European Centre for Medium-Range Weather Forecasts and synchrotron radiation facilities—including the new projects that we have recently joined, is based on

intergovernmental agreements that will continue to be in place and are not in any way affected by Brexit. That is clear and there is no negotiation needed and no doubt about that.

There are a few EU-funded research infrastructures whose future we do need to understand. Most obviously for the UK that is Culham and the fusion research project there, which receives about £60 million per year from Euratom and EUROfusion. Continued UK participation in some way in the European-wide fusion programme would be necessary if we are to continue to receive that funding. That is one thing we should put on the "to do" list of questions that need to be addressed and prioritised by the Government. Our colleagues in Culham have taken a big role in ITER, the next generation fusion project which is hosted in France. We would wish to continue to be part of that. We have won several hundred million pounds of industrial contracts through that project and are looking to bid for more, and our continued participation is necessary to support the lab at Culham and that project.

There are some details of the European legal structures that have been used for some of these intergovernmental projects, which have been set up as European Research Infrastructure Consortiums, or ERICs. That is a legal structure like an international company which is embodied in UK law through the European treaties. It is perfectly possible for third countries to be part of such ERICs, but I believe, to get the VAT exemptions we would desire, we would need to pass an Act through the UK Parliament recognising that status. That is what has happened in Switzerland and Norway. This is important because we host at least one ERIC, the European Social Survey, at City University in London. We need to do something to put that recognition in place.

So in general, our involvement in European infrastructure projects will not be hugely impacted by Brexit because they are not usually receiving EU funding.

The major concern for those we host, for projects such as the Square Kilometre Array—which we are trying to set up as a treaty organisation so it will have all the intergovernmental aspects which are recognised—is about the free movement of talent, as Phil Smith was saying. If we wish to host large research projects, just as our university colleagues wish to attract the best scientists from around the world, we would wish to attract the best scientists from around the world, not just from Europe but from everywhere. Therefore, it is much more a question of what new work permit regime, what new immigration regime, may be put in place than a particular consequence of withdrawal from the EU.

Lord Mair: Thank you.

Q38 Baroness Neville-Jones: One of our witnesses a moment ago mentioned the industrial strategy. Do you think this will be helpful in the context of post-Brexit and what particular priorities should the industrial strategy have, given the fall-out from Brexit?

Professor John Womersley: I think all of us will probably have an opinion on that but perhaps I could start. The inclusion of industrial strategy in government and the use of that language is important because it allows us to explain the role of science and innovation in underpinning future productivity growth in a knowledge-based economy. It allows us to talk about the skills, about basic technology and how to feed them through into economic activity, not just in a linear system but to feed back challenges. It enables us to make this connection between the work of the research councils, the work of universities, the work of Innovate and others and other PSREs as well, in a way which obviously relates to

government priorities and which might influence negotiation strategy around Brexit and even future funding.

Baroness Neville-Jones: Who is the "us" in that? You said it allows "us".

Professor John Womersley: Earlier we were talking about the role of UKRI in making this case. It allows a Minister, a Secretary of State, to argue that an industry strategy is necessary. It is after all a Minister whose department hosts the £6 billion funding that goes into Innovate and into the research councils. So it is partly having that argument internally with the Treasury; it is partly the science community, people like the vice-chancellors you were just talking to and all of us here, being able to make that point. It is partly a public policy debate about what the priorities around Brexit need to be. We will be hearing and have been hearing a lot about the need to get crisper statements about the right of foreign residents to live and work in the UK, and about access to the single market couched in terms of tariff barriers and location of factories, but we also want to talk about the UK's knowledge economy—the movement of knowledge workers and our ability to attract small start-ups and the large research activities of multinationals like Cisco. So it is a way to have that conversation that avoids the sense that the science community, if there is such a thing, is merely arguing for science funding and trying to replace what appears to have been lost from Brussels. You will notice I have not even mentioned that funding up to now because I think that is a second-order effect compared with all these other factors.

Baroness Neville-Jones: It seems to me you are saying that we need to create some context within which people understand the—

Professor John Womersley: Exactly, and it is the same "we" you are using there: those of us who are advocates of appropriate investment in science and innovation to drive future growth in a knowledge-based world. We need to connect the science and innovation at the start of that ecosystem with the jobs and growth we seek to produce. For me, an industry strategy is a way to do that.

Q39 Lord Hennessy of Nympsfield: First, I would like to ask what you think the new industrial strategy is in a couple of sentences. I have always needed help with that. As a historian I am re-reading Labour's national plan from September 1965. We have been here before, but I do not want to sound cynical. I am very taken with the optimism you have been expressing in the sense it is a chance to look in a fresh way at all this, and Dame Julia put it very eloquently a moment ago. However, is there not also an opportunity cost? There is only a finite amount of nervous energy and time that we all have to do these things and Brexit is imposing a huge load on the little grey cells of the nation that could perhaps be better deployed if we had voted to remain. Discuss.

Professor John Womersley: Well, you asked about three questions there. If I were in charge of the industrial strategy, I would start from the title of the previous version that was produced under George Osborne and Greg Clark and David Willetts. It said basically that science and innovation is our plan for growth. That gets you clearly away from the "propping-up major employers" approach that you are perhaps referring to in the "white heat of technology" era.

Lord Hennessy of Nympsfield: I did not put it quite like that.

Professor John Womersley: Industrial strategy was correctly derided for many years as support for failing industries rather than stimulation for growing industries—

Baroness Neville-Jones: Picking winners.

Professor John Womersley: Science and innovation is all about spotting the future rather than protecting the past. In terms of nervous energy, the science community certainly has been through many of the stages of a classic grieving process about Brexit, and was initially, and is still, very concerned about it, but now has got to the point where we can have a rational discussion about the ways to mitigate any potential damage, influence the outcome in such a way that it potentially has some benefits—we talked about the regulatory environment as one of those—and to input into the debate in a sensible way. However, the work of government, of Parliament and the Civil Service, will be dominated by this. We read yesterday, "One of the most complex negotiation exercises ever to be undertaken", so in the new Department for BEIS we need to make sure a sufficient—which probably means large—amount of effort is devoted to understanding some of the legal issues around the future position of science and innovation in a post-Brexit world, and making sure those are fed into the Departments for Exiting the EU, for International Trade and so forth, wherever negotiations are led. We understand those things may not be public positions that can be taken at this point, but privately behind the scenes I would very much hope a significant amount of work is getting started, because it will need to be done.

Phil Smith: It is exactly that nervous energy which needs to be shaped in some way and corralled over this period. In business when things hit you, whatever they might be—competitive or economic issues—you tend to then consolidate and think about how you will do things more efficiently. There is no doubt that having a department genuinely focused on championing the best of what we have in the UK is a very powerful thing to have.

There was a significant rallying of industry in the Greg Clark-Vince Cable-David Willetts environment when we had an industrial strategy before; industries were starting to rally strongly around it and there was a real sense of people feeling that the Government were trying to support the things we were good at. Having it back in this environment, when we have an awful lot to think about, is extremely powerful. There is no doubt that, as we look at how that is delivered, it allows us to start to think about investment. Some of the things that were talked about before potentially, in a slightly different regulatory environment than we were before, mean we can potentially heavily invest in areas that the UK is strong in. From an international business perspective, I think a clear signal that the UK is absolutely out to excel in certain areas is a very strong message externally—saying we should be investing in the UK because it will excel in certain areas. You only need to look at what has been done with Germany and its much-talked about Industry 4.0. There is clearly substance to it but there is a lot of messaging to it as well which says, "This is what we are going to do" and people are rallying around it. It is very important that we find a way of doing clear and simple messaging on industrial strategy for the UK. What it exactly is at this point is not clear, but it is a welcome return to something that will work on those strengths. In industry generally it is widely accepted that it will be a good thing and now is the chance for industry to try and improve it.

A final point I would make, which has been made a couple of times, is that we have no choice but to improve our productivity. As you all know, we are significantly—17%—behind the G7 average. There were huge opportunities to improve productivity prior to Brexit. It is

absolutely essential we do it now and we need to be working on industries that give us productivity advantages, and there are many of those that can be handled in a very different way going forward.

Q40 The Chairman: May I follow that up by asking you specifically about support for UK start-ups? About a third of the support has come from the European Investment Fund—£2.3 billion, I am told, over the four-year period to 2015. It seems dubious that we will qualify for that unless we negotiate successfully on Brexit. Are we expecting the British Business Bank, created in 2014, to fill the gap? What are the chances of their being able to get up and running in the two or three years we have, or are we facing a problem here?

Phil Smith: We are potentially facing a problem; I think it will be a struggle to fill that gap. However, there is significant industry and broader support for start-up businesses per se. Many people are starting to focus now on how can we take those start-ups to the next phase and allow them to scale and double their employment and so on where we will generate real productivity gains. That will be difficult in some of those larger bodies that have been funding significant start-up activity. There will still be opportunities to bid for it; there are people who are looking to invest in start-ups, and most big companies based in the UK have some sort of start-up support environment. As we were discussing previously, we need to focus on where the real growth is. For example, in the productivity activity in which I am involved with Sir Charlie Mayfield and a number of others, we identified that 70% of employees in the UK work for companies that are below the mean of productive companies for their own sector and size, so they are working in unproductive industries. If we could move them up by 10 percentile points, the UK could gain £163 billion per year. In other words, there are things that can be done to move people up the productivity environment, whether they are start-ups, collaborating better or better funding through industry and others. We have to target as much as we can now because we are in an environment with lots of noise and nervous energy where we need to do the best for the UK.

Q41 Lord Cameron of Dillington: Post-Brexit, will the UK be able to remain a member of the ESFRI and/or the Scientific Advice Mechanism? It was quite interesting in the last session hearing Dr Vallance say that he thought the biggest risk for industry was the fact that the UK would no longer be leaders in the EU regulatory environment. Presumably, there is an equal risk of our not being leaders in the decisions on informing EU science policy or, for that matter, research infrastructures. Is that true?

Professor Dame Julia Slingo: In my role as a member of the high-level group, of course, that is unaffected by Brexit because I am there in my personal capacity as an international scientist. Indeed, when the group was brought together, it was open to anybody from any country, not just EU countries, and it so happens we are all from EU countries, so that is not affected. There is a point here about the UK's leadership in EU science and research programmes which sometimes does not get mentioned enough. We often talk about the loss of funding, but I know that, on the EU side and when I talk to the Commissioner, one of things that concerns them is the loss of UK leadership in science—in Horizon 2020, for example. As an example, at the moment in the Met Office, we now co-ordinate five major programmes in the field of climate action. We have a major programme being developed on climate projections for Europe, which is a multimodel, multinational effort, and the feedback we have is, "Please, Met Office, continue to lead that". We need to understand not just from

our perspective but from the EU's perspective that they will also lose if they cannot retain some of the expertise and leadership in science that the UK definitely brings to the table. We need to think about how those mechanisms to allow us to interact with the EU can continue.

Professor John Womersley: As far as the research infrastructures and other committees are concerned, ESFRI was set up by the Council of Ministers and the membership is formally EU members, so we will not be a member. However, Associated Countries which have associated to Horizon 2020 and which are part of the European Research Area do participate. There is more than one way to be associated to the Horizon 2020 programme or to FP9, or whatever it is called, that will follow. Countries such as Switzerland have paid into the scheme and can therefore receive grant funding out of it, but the Commission is clear that, to be an associate at that level, one has to accept free movement of people, and that may or may not be an acceptable position for the UK Government; we shall see. There are other ways to be associated to Horizon 2020. Even countries such as Turkey, which manifestly do not have freedom of movement, are associated with Horizon 2020 without the same privileges, such as being eligible for grant funding. At the very least, we should aspire to a status that lets us be part of these networks, part of proposals and part of collaboration, even if we cannot receive funding from the collaboration because often the funding is not the major driver. STFC is part of projects where we have received £20,000 or something from an EU network. That is great—you can hire a student with that—but the real value is being part of this international collaboration which is defining the next-generation technology in a certain area. One of my personal red lines is that there must continue to be some association with the framework programmes and future framework programmes that lets us be part of those international collaborations, even if we are not able to adopt the free movement that would let us be a financial beneficiary.

Phil Smith: Importantly, if you look at some of the things that leverage the rest of the money, saying we are going to lose EU money, whatever that may be, and replacing it with UK money is one thing, but at the moment we have a big multiplier on that money if we are influencing it. If we are shaping the agenda, then the sorts of industries and sciences we want to be in are put in as opposed to the ones that some other country might have. We have seen, for example, that the SME programme in the EU at the moment is based on Innovate UK's SME programme. In other words, we have influenced how it has done it, hence making it easier for our SMEs and start-ups to have access because they are familiar either through the work that Innovate UK does with them or having applied for Innovate UK funding. That influence is important; it is not simply matching, it is potentially a multiplier on top which we have to be conscious of, so we should be looking for vehicles to be part of that, if we can.

Q42 Baroness Morgan of Huyton: Can I move us quickly on to research outside the EU? We have talked this morning about EU research, but we know that most high-quality research takes place outside the EU, whether it is in the States, Asia-Pacific, China or India, and we know that all of those, particularly the newer research nations, are rapidly increasing their high-quality research. Is there a ray of optimism here? When we looked at this before Brexit, we received evidence that that was all true, but it would not necessarily make a lot of difference. Has your perception changed at all since Brexit? Do you think there are real opportunities for more research collaborations outside the EU that will be enhanced by Brexit in any way?

Professor John Womersley: Let me answer that carefully because membership of the EU never stopped us from being part of broad international collaboration.

Baroness Morgan of Huyton: As we certainly were told before now.

Professor John Womersley: We have continued to collaborate broadly and internationally. I am not sure, therefore, that "opportunity" is the right word, but perhaps "imperative" is. It is extremely necessary for the UK to show that we are still open and enthusiastic to collaboration with European countries on a Government-to-Government basis and much more so with the United States, India, China and emerging science nations because we will have to create our own scientific identity as a partner of choice. We have already been trying to do that with projects, such as the Square Kilometre Array, which involves China and India for precisely that purpose. I am pleased to say that the Science Minister is indeed well aware of this and is interested in ways in which, within existing budgets, he can promote international collaboration with other partners. STFC has been talking about a particle physics project with the United States called DUNE, which might be a way to emphasise UK collaboration in a transatlantic way with a lot of excellent science. It happens to be a UK scientist who is co-leading the project, so it is natural for that. It is more important than ever for us to show that we are open to the world scientifically. We do not have any extra money or freedom to do this with, but we have an extra impetus to do it.

Baroness Morgan of Huyton: Thank you. I am not sure that is grounds for optimism, but it is clear.

Professor John Womersley: I am always optimistic when Ministers say they are interested.

The Chairman: We will have an opportunity to talk to Mr Johnson about this in October.

Q43 Lord Oxburgh: If EU funding for collaborative research were lost, what steps should the Government be thinking of to mitigate the consequences? What would you assess the consequences for the public purse to be in the UK?

Professor John Womersley: Our vice-chancellor friends gave an estimate of the Horizon 2020 funding. Mine was a little lower, about £800 million per year of EU support, predominantly into the university system, I think, so that is where one would need to look. It is a significant amount of money. We will have to see what mode of collaboration we would have with future EU framework projects, and whether that money is flowing into the framework project in order to flow back to the UK, as the Swiss do, or whether it is UK matching funding to enable us to be part of projects for which we cannot receive funding from Brussels. If you do not replace that money, there will be shrinkage in the volume of research done in UK universities. I do not think that was anybody's intention and, therefore, some plan needs to be put in place to mitigate it.

Phil Smith: The number I have is around £2.2 billion so far from Horizon 2020, of which about £460 million is for industry, £290 million for the RTOs and 1.4 billion for the universities. Those numbers are obviously significant and not easily replaced, but I understand that the balance of how much we invest in this is roughly about the amount we get back, but it is not taking into account the multiplier I spoke of before because much of this is about collaboration. Simply giving UK businesses, RTOs or universities the money is fine, but they need vehicles to collaborate because, as we all know, if you are looking at things such as large-scale demonstrators—things which genuinely prove a change—science

and innovation need to be done in a collaborative way. I am sure naturally both industry and science would want to be collaborative, but we do not want barriers put in place that make that more difficult. The funding is significant and potentially manageable over time, but the other factors are extremely important.

Professor John Womersley: While we are on the subject of money, a point I forgot to make earlier on research infrastructure is that we have already seen an unfortunate significant impact this year because of the fall in the exchange rate of the pound against the Swiss franc and the euro. Where we are part of treaty organisations, such as CERN and the European Space Agency, the UK taxpayer is committed to paying a certain amount in euros or Swiss francs, and we have had to find that amount in euros and Swiss francs, which has cost more pounds to do. Because of the timing of the comprehensive spending review followed by the referendum, it was not possible to buy that currency ahead, which would have retired the risk. Certainly STFC has now bought all the foreign currency we need, which limits the risk. It also means we will not benefit from any improvement in the exchange rate, but so be it. In the fullness of time, this will even itself out because our GDP will be recalculated in the currency the organisations work in and, after three years, we will be back to paying what we had budgeted to pay. In the meantime, the taxpayer, through the Treasury, has to dip into our collective pocket to make up this shortfall. For STFC, that is about £20 million a year and it is a similar amount for the Space Agency.

Q44 Baroness Young of Old Scone: Could I go back to a more general question? Someone mentioned our needing to continue to be a partner of choice. Could we widen that slightly? Clearly, there are challenges in partnerships and collaborations between research organisations, as we have heard today, but there will also be important questions on how business feels about all of this—not only the ability of UK science to continue to be a partner of choice but whether they are having a tough time dealing with the transition, the future access to skills and the conditions for them conducting their businesses. What are your thoughts on that? Are we likely to see a flight of businesses from the UK that would compound the collaboration difficulties we might otherwise experience?

Phil Smith: My view is that it is unlikely in the short term. I do not think businesses would panic necessarily in that way. I genuinely feel, however, that there are subtleties in the investments made. In the previous discussion on talent, it was said that it is largely anecdotal at the moment, but there is no doubt, in the experiences I have had, that there are people already making decisions not to come to the UK because they are not sure about their families or whatever. If it is one researcher or student, that may not be significant, but, if it is an executive in a company who says, "I'm going to base myself in Switzerland or wherever for a period", the natural tendency in the company is, "I'll recruit a few people around me" and maybe the next headquarters will happen to be there. There are corrosive things potentially happening under the covers, hence the Government need to provide clarity sooner rather than later. Some of the things they have done around research to say, "We'll fund things which are already funded by Horizon 2020" are good. The talent position needs to be clarified. There is no doubt that it was the most vocal issue for industry in every forum I have been involved in. We understand the Government are trying to negotiate the best, but it is totally unacceptable to have people being used as pawns at the moment; it does not work. I ran a conference call for the 4,000 or 5,000 people based in the UK at 24 hours' notice on Brexit issues. Nearly 2,000 people joined it and the biggest issue that came out

was people saying, “What’s going to happen? Are the company going to support me?”, so there is definitely uncertainty there. Although businesses will not make rash decisions because there are lots of things tied up in assets and so on, we have to be very conscious of those subtleties, which means clarity, simplicity and a strong vocal position, as the Prime Minister is taking, saying this is going to be a strong place to trade in. They may seem high-level, but they are very important. If I am talking to an executive in California who does not know what is going on here on a day-to-day basis, he hears things in a different way from how we are necessarily saying them, so simplicity is important. Businesses over time will make the right decisions for their businesses, and we need to make sure that this short-term uncertainty does not force people to start thinking about other things. At the moment we need clarity and simplicity.

The Chairman: What would you suggest to the Minister needs to be done in the short term to address this problem of uncertainty?

Phil Smith: In the short term, if I look at some of the key emerging areas, and I am sure different industries have different perspectives, the position around talent has to be clear: we are going to support people based here who are EU nationals with some vehicle for giving them certainty for themselves and their families. I do not think that is certain at the moment. It is implied it will be fine, but that is not very good when either you are here already or you are planning to come here, so something needs to be done sooner rather than later. There are maybe other key pieces of legislation or standards. For example, we are going to have to implement the General Data Protection Regulation in the UK, which is about privacy and so on, because it is within the scope of us still being in the EU, but what happens after that? Does that mean industry will have to pay a load more for other regulation put on top? Each industry has been consulting with the Government, so take the top three key issues—not everything as we know they cannot solve everything—and start to address them simply and systematically. That is going to give a lot of comfort potentially within the scope of the industrial strategy, but it needs to be done quickly.

The Chairman: That concludes our evidence session with you. We are most grateful for your help. You have given us a number of pointers. When we return in October to complete this revisit to UK science and Brexit, we will draw on some of the pointers you have given us to draw up a list of issues we think need to be addressed, not so much in the short term but in the medium and longer term. We are particularly grateful for the help you have given us. Professor John Womersley, Phil Smith and Professor Dame Julia Slingo, many thanks for your help. There will be a record, as you know, in the normal way, so please make any alterations if we have the record wrong.