HOUSE OF LORDS

Revised transcript of evidence taken before

The Select Committee on Science and Technology

Inquiry on

THE RELATIONSHIP BETWEEN EU MEMBERSHIP AND THE EFFECTIVENESS OF SCIENCE, RESEARCH AND INNOVATION IN THE UK

Evidence Session No. 13 *Heard in Public* *Questions 136 - 143*

TUESDAY 1 MARCH 2016

11.50 am

Witness: Professor Philippe Moreillon

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 Fox
Lord Hennessy of Nympsfield
Lord Hunt of Chesterton
Lord Kakkar
Baroness Manningham-Buller
Lord Maxton
Duke of Montrose
Baroness Morgan of Huyton
Baroness Neville-Jones
Viscount Ridley
Lord Vallance of Tummel

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Examination of Witness

Professor Philippe Moreillon, Vice Rector, Research and International Relations, University of Lausanne, Switzerland

Q136 The Chairman: We welcome Professor Philippe Moreillon. We are being broadcast, so I would ask you formally to announce who you are and, if you would like to make an opening statement, please feel free to do so and after that we will go into our questions.

Professor Philippe Moreillon: Thank you very much to the Committee for the invitation. My name is Philippe Moreillon. I am professor of medicine and microbiology at the University of Lausanne in Switzerland. For a number of years I have been vice rector of the University of Lausanne, in charge of research and international relations, and, in that sense, I have been exposed to the questions that were posed to Switzerland regarding the EU frameworks.

As an opening remark I would say from the Swiss point of view, of course, there is some history. Twenty five years ago we voted against being part of Europe. It was very tight. There were a number of negotiations and agreements signed by our diplomats to be part of the European adventure, if I could call it that. Before 2004, from a scientific point of view, we were considered as a third country. Between 2004 and 2014 we were considered as an associated country, and it was of tremendous benefit, and since the terrible vote of 9 February 2014, we have reverted to a third country.

Q137 The Chairman: I am not sure whether you were in the room when I said earlier that we would welcome an opportunity in this session to discuss associated country status with the European Union. We will come to that in a moment. Recognising that Switzerland is a highly productive nation in published output per researcher, what do you attribute this to? Which aspects of the environment for science and research in Switzerland most contribute to this?

Professor Philippe Moreillon: I would say it is a biotope and it has historical grounds. In Switzerland, we do not have any raw materials to valorise. We only have excellence in

science, innovation and services. The people and politicians of Switzerland are very aware of that. There is collective knowledge of the fact that we need to be excellent in these types of areas because we have nothing else, no massive production industries et cetera.

I would put six points here. The first is the awareness and willingness of the authorities and people to nurture this excellence. The second is investment. We put money in. The Swiss Government puts about 3% of GDP into research and education. This is not the largest among European countries, but it comes third, I think. There is free public education. There are almost no tuition fees for education from kindergarten to university. There are very low taxes, and that helps, of course, because taxes for foreign students and researchers are not high either. There is free-thinking science. As other European countries, we have our own national funding body, the Swiss National Science Foundation—you have the Wellcome Trust et cetera—which provides money for large, mostly free-thinking programmes. That would be the ideas part, or ERC part, of the current Horizon 2020 and the FP7. Of course, that is important because in basic research—asking how matter functions, how nature functions, how society functions—you are deemed to have discovered new, unexpected things that were not foreseen or predicted, and you are building the future; the future not in five years, but in 20 or 30 years. That feeds into what comes later on, which is applied research. Applied research is the application of what we know and trying to get it into the field, but it is not novel. It is important to have fundamental research and I think Switzerland does this pretty well.

There is internationality. Fifty per cent of Swiss researchers have non-Swiss passports. This is important. I guess it is not very different from the UK. Thirty per cent of Swiss researchers come from Europe, from neighbouring countries, so the networking and mobility that was alluded to in the previous session is quite important, at least for Switzerland.

Last but not least, just as we put a lot of money into research and science, we have good infrastructures, and, if you come from another country to work in Switzerland, you will be well treated regarding infrastructures and support.

The Chairman: In this country, sometimes we congratulate ourselves on our luck in having English as our native language, which is becoming very much the language of science around the world. You referred to the excellent educational system in Switzerland and, indeed, you have three national languages, effectively, and you all, including yourself, Professor, speak absolutely excellent English as well. Is this linguistic ability part of the strength that Switzerland has to offer the science community?

Professor Philippe Moreillon: Yes, but we are not alone in that. Many other countries do, except maybe France where it is traditional not to speak English. It is changing though. In many other places, there is teaching partially in English. I would make a point on the English language for science. I think it is a code. At least, that is how I sell it to my elderly colleagues and doctors who hate having programmes in English in their field. For a long time before that, it was Latin. It has changed over the two world wars with the evolution of Europe. Now it is English and that is the code we have to use in order to share our science, and we just do it.

Q138 Lord Hunt of Chesterton: In your opinion, what are the main advantages and disadvantages conferred on the Swiss science community as a result of associated country status within the EU? We have discussed variously the different opinions as to whether you

have lost your strategic position in influencing the big European programmes. Could you comment on that?

Professor Philippe Moreillon: Yes, sure. We have experienced both. When you are not associated and you are a third country, there is no place at the decision table. Many programmes are not available to you and you are out of the game, unless you have colleagues in Europe, for instance, in collaborative projects. It is complicated because you need at least three European members for a collaborative project, so if you are a third party country you come as a fourth. Of course, it is more complicated to work like that and you have fewer opportunities to work with these guys.

The other problem with being a third party is if you have a collaborative project with European partners, Europe will not pay for your share of the programme, but Europe will decide what you and your country have to pay. The system is quite complicated because your local funding support will tell you, "I want", or, "I don't want to put that much money in". You lose your freedom and the system is complicated.

When we became an associate, it was much, much easier, of course, but we are still not sitting at the decision table or on the consultative committees where the decisions are made. We have a number of ways to interact, such as through university associations. We are still in the corridor, but at least we are part of the whole programme. The country puts in a share of money according to an equation of people, scientists and the GDP, and you apply for this money and the money comes back. Switzerland increased tremendously its proportion of scientists applying for European funds. If I give you the numbers, they show that we did very well. In ERC, this free ideas programme, Swiss scientists get back something like 2.5 their share, and on average for the whole of science about 1.45. That is not exactly the benefit in francs because you have fluctuations. That was amazing. However, two years ago, when we were out again, new applications for the European programmes dropped by 50% immediately. The number of co-ordinations dropped by 95%. That is because it is much more difficult to deal with. You come with your own project and you try to get a few other groups, and they say no because it is too complicated, or maybe for psychological reasons.

Lord Hunt of Chesterton: I have done projects with Switzerland under the former regime and it worked very, very well, but clearly there is a big change now.

Q139 Baroness Manningham-Buller: I think you have mainly answered my question, Professor, but are there examples you can give us of where your being in the corridor as opposed to in the room, contributing to the decisions, has put you at a disadvantage? It is obviously a speculative question, but do you know of anywhere where you could say that?

Professor Philippe Moreillon: No, I cannot give you one or two clear examples on that. It is obvious that scientists adapt. You have the funding bodies in Switzerland, which are quite open, and if you want to go to Europe, you adapt to the European rules and programmes. You may or may not be happy, but that is the way to progress in science.

Q140 Lord Fox: Turning to regulatory harmonisation, obviously you can give us two views, one as a third country and one as an associated country. Do Switzerland's national regulations influence international collaboration? For example, do Swiss scientists end up having to adhere to two sets of regulations, the European and their own? Is there some advantage to having their own in the sense it frees them from some of the things we have heard in previous evidence?

Professor Philippe Moreillon: If you work with European colleagues, or if you are applying for ERC funding, or if you are funded by Europe, you abide by the European rules. Administratively, it is a bit complicated sometimes, but you make it work, and it is a tremendous opportunity for science and networking. If you want to go to the Swiss funding agency, and the Swiss have a big one—the Swiss National Science Foundation—then it has its own rules, which are a little simpler. I would say that it is advantageous to have both systems because they are complementary, if that is the question. There is no disadvantage in having two systems with two sets of rules. There is an advantage in having two complementary systems.

Lord Fox: Is there any advantage to having a national system to free you up from perhaps some of the worst aspects that we have heard in other evidence?

Professor Philippe Moreillon: Yes, I would say so, especially if you are not at the decision table. I think most of the countries in Europe have their own funding agencies. There is an advantage in having both, provided they are complementary. That is my opinion.

Q141 Viscount Ridley: I want to drill a bit further into the question of the February 2014 referendum and the impact that had on participation in European science. As I understand it, what the EU and Horizon 2020 particularly objected to was not merely the controls on immigration that came in but the specific rules that favoured Swiss nationals within scientific laboratories, among other places, as opposed to people from outside. Is that right? Was there something very specific there? This is relevant to our question because we have a tier 1 and tier 2 visa arrangement for getting scientists into the country from abroad, which would presumably continue because it works outside the EU at the moment. Can you shed light on exactly what it was that triggered the demotion of Switzerland to third country status? Could you come on to the question of how long term that effect is and what will happen at the end of 2016 when the current deal with the EU programmes expires?

Professor Philippe Moreillon: I am not sure I can tell you the exact details and whether there were small details that really bothered or frustrated the EU. I can tell you the vote was against massive immigration, which is a terrible term. Of course, that was launched by the conservative parties in our country, which are pretty strong and do a good job, at least in advertising and campaigning. First, I think it is important to note that they won this vote by 50.07%. It was called “a great victory”, but that is only relative. The advertisement that was put out was that we would use more Swiss guys. It was somewhat of a lie that in the overall workforce foreigners were taking jobs from Swiss people. The unemployment rate was something like 3%. This is a safe and sane unemployment rate. There was the impact on another treaty that was under way on free mobility for Croatia. I think that was the particular treaty that came down automatically with this vote, and Europe was very frustrated at that and they took these measures.

My opinion is that it was legitimate for the EU to do that, because if you have common values among all these countries to have free mobility, and little Switzerland says, “Oh no, not me, but I will take advantage of all the other things”, it could not cope with that. We voted two days ago on another referendum by the same party on the expulsion of foreign criminals—foreign being those with two passports or one non-Swiss passport—and the Swiss people, luckily, voted massively against that one, and I think that is a good sign.

Viscount Ridley: Against the criminals?

Professor Philippe Moreillon: Against the expulsion of criminals.

Viscount Ridley: Good.

Professor Philippe Moreillon: It is l'état de droit, the rule of law.

Viscount Ridley: Can you reflect on this question? As I understand it, Switzerland renegotiated its way back into associated status with the science programmes, but that deal is only until the end of 2016. What happens after that?

Professor Philippe Moreillon: We do not know. We have been out and then we have been partially in for one of the package of systems, which, basically, is called excellence. Now we do not know. I guess we will have to make a decision on whether we re-open the votes against massive immigration and especially mobility for Croatia. I think that is the deal. The Swiss Federal Council will have to make a move before the end of the year to either re-vote or make a statement or an amendment on its own.

The Chairman: What are the implications from this lack of certainty? You say you have no idea what is going to happen after 2016, which is this year, I suppose. Does this have implications for the long-term planning of your research institutes or universities?

Professor Philippe Moreillon: Yes. You have to take this as a bundle or a package. Our raw material is science and, talking egoistically from the point of view of small Switzerland, with the networking and the fact we have attracted many scientists from all over the world to work, we have a scientific jewel, if you will. Now, we are out of the big networking from Europe, so you may say we can have networking with the United States, India, China et cetera, but our direct scientific neighbours are the European countries, and they have built this European area of knowledge, education and research, and we would be foolish not to use it.

I will give you an example. If you have a good researcher coming from a European country with an ERC, which we favour very much because it is basic research, and the ERC cannot be hosted in our institutions, he or she will not come, or he or she will come and use their ERC in another institution. This makes no sense. It will take some time, but the level and attractiveness will decrease, and this is all we can predict. If you decrease science, you decrease the applied science that sits around it; you decrease SMEs coming in and maybe the big pharma—because there are a lot in Switzerland—in my domain, and big industry. It has a tremendous effect over time. That is what we could predict. You could react to that and have other things.

Q142 Lord Hennessy of Nympsfield: Professor, can I ask you a qualitative question? How do collaborations between Swiss and EU scientists differ, if they do at all, from collaborations between Swiss scientists and scientists from non-EU countries? Do you think that the non-EU collaborations are stronger because of your gallant independent stand and recognition that your little grey cells collectively, as a nation, are your greatest single raw material?

Professor Philippe Moreillon: I am afraid I cannot give you numbers for non-EU connections for scientists. Scientists go where they need to for their science and they network in that way. There are many connections with the United States, for instance, but the funding or putting money together for a common project with the United States, Brazil or China is much more complicated than with Europe, because in Europe you have this wonderful system where you have a centralised pot and projects, and everybody comes in and evaluates the

projects with the best experts, and you can do that with a lot of money. Big, big projects with the United States with one-by-one scientists are no problem, but a huge project, such as CERN, with the United States I would think is very difficult.

Not being in the EU any more, our direct neighbours are still Europe and scientists will go first to European colleagues and further later on. I do not think it will affect much. We will not increase much collaboration with scientists outside of Europe because of the difficulty of cross-funding.

Lord Hennessy of Nympsfield: Could I ask a quick supplementary? As a sympathetic friend of the UK, as I assume you are, I do not know how much you have been watching the nature of our national conversation about the European question. Are there elements of it that baffle you?

Professor Philippe Moreillon: Sorry, can you repeat your question?

Lord Hennessy of Nympsfield: When you listen to our national debate in the UK about the European question—remain or leave—are there elements of it that baffle you? Do you think by the way we conduct our debate we are very peculiar people?

Professor Philippe Moreillon: No. I think the arguments are the same as we have had in Switzerland for 25 years. Maybe I will make a joke here. This is a cartoon which comes up again and again. When Swiss people have to vote or make decisions on Europe, it is a cartoon where, basically, the heart says "yes", the gut says "no", and the brain says "I don't know", and then you have 50% voting.

Lord Hunt of Chesterton: Are they all related to each other?

Q143 Lord Vallance of Tummel: Can we turn to collaboration between business and universities in research? We took some evidence earlier which suggested that if you were a business headquartered in the European Union, you would find it perhaps significantly more difficult to collaborate with a Swiss university than you would with a university within the EU. You might want to comment on that. Looking at it the other way round, do you think that a Swiss business would find it significantly more difficult to collaborate with a European Union university versus collaboration with a Swiss university? If so, why?

Professor Philippe Moreillon: Scientists and businesses have their own logic for collaboration. They go where it is more profitable and easier. If you have different standards in different countries, and you have big Europe with a common standard for whatever production or R&D—you were talking about clinical trials—you would go to the big market, not the small market where rules are different and more constrained, because your product will not fit. Being outside Europe makes life tougher. Maybe not for very complicated or high grade or very specific domains, but those would be close to fundamental research because it is new. Basically, I think businesses would just go out to where it is easier. It is logic.

Lord Vallance of Tummel: So it is a straight commercial decision?

Professor Philippe Moreillon: Yes.

The Chairman: Professor, I think we have asked all the questions that we had in mind to put to you, unless any of my colleagues want to come back on anything. I think not. I pass on the thanks of all members of the Committee for your great courtesy in coming to help us today. It has been enormously valuable to us to have your perspective from Switzerland. There is a

lot of relevant information we will have to take away and contemplate as we write our final report, which we will be doing very soon. Thank you very much, Professor, for joining us today.