



Science and Technology Committee

Oral evidence: [Funding of the Royal Botanic Gardens, Kew](#), HC 866

Wednesday 17 December 2014

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Written evidence from witnesses:

- [The Royal Society](#)
- [UK Plant Sciences Federation](#)
- [Royal Botanic Gardens, Kew](#)
- [Joint trade unions](#)
- [Department for Environment, Food and Rural Affairs](#)

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Members present: Andrew Miller (Chair); Dan Byles; Mr David Heath; Stephen Metcalfe; Stephen Mosley; Pamela Nash; Graham Stringer

Questions 1-124

Witnesses: **Professor Mary Gibby**, UK Plant Sciences Federation, **Professor Georgina Mace**, Fellow, The Royal Society, and **Sir Neil Chalmers**, Chair of a 2010 independent review of Kew Gardens, commissioned by DEFRA, gave evidence.

Q1 Chair: Welcome everyone. I am Andrew Miller, Chair of the Select Committee. I do not normally do this in the House of Commons because everyone who comes along is used to the protocols, but this is a Select Committee hearing. It is us cross-examining the witnesses. There is no opportunity for the audience to participate, but if people have opinions that they consider are worthy to submit as evidence, feel free to write to us. We have had 60-something submissions sent to us so far. Every one does get read. That is the format of a normal Select Committee. The difference is, merely, that we are meeting in this wonderful setting today.

I invite the first panel to join us at the top table, please. Everyone has to press the button to use the microphone, so we need to be a bit disciplined about that, I guess, but we will work it out. I would be grateful if, for the record, the three of you would introduce yourselves.

Sir Neil Chalmers: I am Neil Chalmers. I chaired the independent review of Kew, which was published in 2010. Before that, I was director of the Natural History Museum in London.

Professor Georgina Mace: I am Georgina Mace. I am presently a professor of biodiversity and ecosystems at University College London, and I am a Fellow of the Royal Society. I am here today representing the Royal Society. I also chaired an independent review of science at Kew for DEFRA in 2011.

Professor Mary Gibby: I am Mary Gibby. I am representing the UK Plant Sciences Federation. For 26 years I worked in the botany department of the Natural History Museum, and then I moved to Edinburgh as director of science, but I am now retired.

Q2 Chair: Thank you very much. The first question I want to table is this. It seems a bit obvious—I have just told Radio London what my views on it are—but let's look at the big picture, and could you kindly tell us what is important about botanical science?

Professor Mary Gibby: I would be very happy to do that. Botanical science is fundamental. It is really important, particularly now, because of its role in helping us to understand the ecosystem, the plants and the diversity of plants and fungi within that ecosystem. We have excellent plant sciences within the UK across university departments, research institutes and places like Kew. Plant sciences, in the UK, is world eminent and second only to the United States in terms of its published impact. Plant sciences is strong in the UK, and Kew and its particular type of plant sciences is a very fundamental part of that.

Q3 Chair: Why is the UK so prominent?

Professor Mary Gibby: We have a good track record in science. We have excellent scientists. Despite the fact that botany, as it was, as a subject, has disappeared and become plant sciences all rolled into the broader biology, there is still a lot of engagement across all areas, from the conservation work that goes on in looking at agriculture, improving crops and working across a broad spectrum of plant science, such as comparative morphology. Lots of new techniques are coming in. Plant sciences does not get the funding that some of the animal sciences or medicine gets, but plant sciences, despite that, is very strong in the UK.

Professor Georgina Mace: I will just add a couple of comments to that. I am a zoologist, so I am probably the wrong person to answer this question. Plant science is very strong in the UK. One of the reasons is that it has been able to grow from this very long history of excellent discovery plant science, which Kew specialises in. An important question is what is it that Kew does that other bits of plant science in the UK can't do, and what are

those bits that are irreplaceable? Some of the plant science work that goes on elsewhere is different from what Kew does. Some of what Kew does could not be done elsewhere. That is because of the collections.

Q4 Chair: Are there any examples?

Professor Georgina Mace: The collections-based science, discovery, description, understanding of relationships, storing of material, genetic material and so on relies on having access to the collections: the preserved material, the living material, the germplasm material, genetic material and so on. It makes no sense to do that in multiple institutions. You need special skills and special facilities. A basis for excellent plant science across the UK is that it is in one place.

Sir Neil Chalmers: To endorse what Professor Mace has said, the collections are extraordinarily fine. They have been built up over centuries. They are very big and very special. It is that which gives Kew such a salience, if you like, in the world of biological sciences. The kinds of work that are being done, based upon collections, are either investigations of particular taxonomic groups, such as the Solanaceae—plants such as potatoes, tomatoes and lots of other important agricultural plants—or they are based on particular parts of the world. What flowering plants do you find in a particular region of the world, like east Africa, which is where Kew has been particularly active? It is those kinds of things that Kew can do that very few other institutions in the world can do.

Q5 Chair: Let us try and put it in perspective. We have had a recent announcement from Nick Clegg that some more money is coming to Kew, or less of a cut, whichever way you want to phrase it. Is that because the Treasury has recognised that there is some global value in plant science or is it because of a philosophical view that science ought to be supported? Could you put some numbers on what the value of plant science is in the UK, apart from very big?

Professor Mary Gibby: I do not think I can, but I can report back to the Committee afterwards to find out some figures to put the support on that. All I can say is that the preserved collections, which comprise more than seven million vascular plants and over a million fungi, are an extremely important resource. Once they are catalogued, preserved and named, the research does not stop there because you can go back to the specimens. We now know that you can get DNA out of the specimens. They are valuable for the information that is related to those specimens. Using the information as to the geographical position, we can do ground truthing when we are looking at vegetations across the world and find out what the individual plants are within a particular forest, within a region and within a habitat. That is an extremely valuable resource, which, with digitisation and databasing, is much more mobile than it used to be, more accessible and useful for a whole range of other research activities that go out beyond Kew. It is where Kew is often working in collaboration with universities to reap the benefits of that information in the collections.

Professor Georgina Mace: I think you could come up with a number for the value, but I wouldn't believe that it tells you what you really want to know, because some of the values of the plant science are very difficult to measure. For example, you might be able to look at the total income to plant science research or the total spin-off from plant science research, but that would miss some really crucial underpinning functions that a collection like Kew plays. That would be for understanding relationships between plants in different parts of the world, some of the special facilities and access for the UK that are offered by the international brand that is Kew, some of the training that is offered here internationally, and so on. I would worry, having a figure for the value of science, that it would miss some of these more important elements.

Sir Neil Chalmers: I would say the same. I am not privy to the thoughts of the people in the Treasury, but I would like to think that they had in mind a recommendation that came out of a House of Lords Select Committee looking into the infrastructure of science, which was saying, basically, that the UK's science infrastructure is underfunded in its operating costs. If we are going to maintain our very high standing as a scientifically active and leading country, we need to fund our science infrastructure, of which Kew is a very important and distinctive part.

Q6 Stephen Metcalfe: Thank you, Chair. I want to pick up on that. Everyone is concerned about the job losses, but I want to focus on what the impact of those would be on the science specifically here at Kew. I know you have touched on this already, but can you outline what your greatest concern is and how that concern might manifest itself in, say, three or five years' time?

Sir Neil Chalmers: When I was chairing the review that reported in 2010, we expressed particular concern over the staffing levels in the herbarium and the libraries, because it was clear that the staff were very stretched indeed. Its collections and its work upon them is at the very heart of what Kew does. If there are further staff losses, that must make it very much more difficult to maintain the facility of the collections—the herbarium and the libraries—in a first-class state. The problem is that, if you continue cutting year by year, you risk finding yourself in a position in three to five years' time of having crossed over a boundary of more than adequately fulfilling your duties, both statutorily and more generally in terms of a scientific institution, to having fallen short of that in a way from which it might well be very difficult to recover.

Professor Georgina Mace: In our evidence, we describe Kew as part of the UK's science infrastructure. The thing about infrastructure is that you can think of it like a satellite, a research ship or a synchrotron; it is something that underpins a whole set of other bits of science. It is not something that you can continually chip away at or, indeed, something that you can fund in an on/off way. You have to maintain that infrastructure. I am not privileged to the details of what has been going on at Kew, but it is hard to imagine that you can go on reducing the amount of funding without the infrastructure starting to collapse.

Professor Mary Gibby: Perhaps I could add to it. The people who work with the collections doing research and curation develop an expertise over the years. This is an expertise that, if you have been working there for 20 years, is absolutely invaluable. One

of the worries about these cuts is that you are not being able to maintain that expertise within the organisation if you are cutting too drastically. It is difficult to learn that expertise anywhere else, because not many places are doing this type of work. Some of that expertise has to be learned in-house. If you are cutting too much, you cannot maintain the level of expertise in mycology, in the plant groups, across the organisation, because the research that goes on in the collections is part of that long-term fundamental work that needs to go on. It is not a three-year bite-size pot that you can go in, do a bit and walk away from. It has to be more long term in its outlook. There has to be a strategic plan for that.

Q7 Stephen Metcalfe: Okay; I hear that. There are other institutions around the UK that are doing similar things, presumably, to what Kew does. Would they not be able to pick up or fill some of those gaps?

Professor Mary Gibby: Yes, there are. The Royal Botanic Garden at Edinburgh and the Natural History Museum do similar sorts of work, but they do complement each other. They are all in the same position in that their budgets are flat levelling or reducing as well. They are not in a position to be able to pick up and find extra places. All three of those taxonomic institutions are fighting for survival, fighting to maintain that national capacity across the whole of the UK. Perhaps it is a good idea that they are not all in one pot together, so if one goes down or is being hammered then the other two are, perhaps, surviving on a better level, but it is a problem for all three institutions.

Sir Neil Chalmers: The Natural Environment Research Council commissioned a review in 2010 under the chairmanship of Professor Boxshall looking at the number of taxonomists in the UK, and their report showed that there were about 720 taxonomists in the UK, of whom a lot—a very large number—were concentrated in the three institutions that Professor Gibby has just mentioned: the Natural History Museum, Kew and the Royal Botanic Garden Edinburgh. After that, there are a couple of institutions where they have about 40 or so in each institution. Both of those are funded by DEFRA, so if we are facing problems with shortfalls in funding from DEFRA they are not likely to be more generously funding those two organisations, which are the Environment Agency and CEFAS.

Then there is a very long tail of institutions which just employ three, four or five. The universities, in fact, tend to have very small numbers of taxonomists, and a still smaller number of plant taxonomists. NERC, in the 1990s, gave additional funding for boosting taxonomy, and three universities only received that additional money. They were Glasgow, Imperial College and Reading. Oxford and Cambridge, which both have fine botanic gardens, do not have very many plant taxonomists to support them. I do not think there is the capacity. Frankly, if the numbers are reduced in the top three institutions, and in plant sciences we are really talking Kew here, then there is a real problem for the UK.

Q8 Stephen Metcalfe: When you say that there is a small number of scientists specialising in this area, can you quantify that for me?

Sir Neil Chalmers: I have the figures here, which I am happy to pass on to the Committee—

Stephen Metcalfe: That would be very useful; thank you.

Sir Neil Chalmers:—and also the name and nature of the report, because it does give it in some detail. There are, I believe—the people from Kew will be able to confirm this—about 80 taxonomists here at Kew. At the Natural History Museum there are about 150, but only a small number of those are plant taxonomists. As for Edinburgh, Professor Gibby will be able to tell you.

Professor Mary Gibby: There are about 30 there.

Sir Neil Chalmers: We are not talking very big numbers, whereas if you were talking about molecular biologists you would be talking in thousands and thousands across the country.

Q9 Stephen Metcalfe: So the point you would make—I am perhaps summarising—is that almost any loss in that capacity would have a serious impact over the medium term.

Sir Neil Chalmers: Yes. That is the point I would make.

Q10 Stephen Metcalfe: I have one final question. With regard to what qualifies as an expert in this field, is that someone with a PhD in it or just someone who has worked in that area for a period of time?

Professor Mary Gibby: It can be both. A lot of the experts nowadays do have PhDs, but many people, who are experts, have not come through that track because they have learned in-house and at Kew. They have climbed the career ladder without having a PhD, but they have done systematic and taxonomic research on plants, perhaps working on floras or on a particular group of plants. Nowadays, more people try to get a PhD, but certainly not all of them have.

Q11 Stephen Metcalfe: I did say that was my final question, but do you think, because they do not have a PhD, that they are undervalued as to what contribution they are making to this field?

Professor Mary Gibby: One of the challenges that we all recognise nowadays is that if you do not have a PhD there are opportunities for external funding that you can't go for. So there is a lot of encouragement for people within the subject to get PhDs so that they have better access to external funding. It is part of their career development.

Q12 Graham Stringer: The reviews of 2010 and 2012 both recommended a new scientific strategy for Kew. Does that represent or indicate that there has been a failure of scientific leadership here?

Sir Neil Chalmers: That would be too harsh. Both my review group and I were concerned, when we were doing our study here at Kew, that the science was too widely spread and not sufficiently focused. Those are the sorts of things that a good strategy should produce and enable people to do their very best work. Excellent work was going on in Kew then, as there is now, but we felt, as a group, that there was not somebody who was really championing the science among the senior management team. That is why our review recommended that a director of science be appointed, and I know that that recommendation has been adopted. You will be hearing from the director of science later this morning.

Professor Georgina Mace: The same was true in our review that, at the time, the director of the gardens was also responsible for the science and so had a huge portfolio of running a major visitor attraction, a commercial operation and the science function. We found the strategy to be very broad and rather vague, not focusing on these areas of special expertise capability at Kew. We also found the management to be rather confused. I know there has been a lot of change since then, which I have not been able to keep up with, but I am sure you will hear from the new directors later on.

Q13 Graham Stringer: What should be focused on? What are the strengths that should be reinforced, and what are the weaknesses that should not be carried on?

Professor Georgina Mace: At the time that I led the review here, there was a broad strategy that involved a lot of practical conservation in the field, in the UK and overseas, a wide range of research as well as the work in the Jodrell Laboratory, the herbarium and in the gardens going on rather in parallel with each other, so missing out on many of the synergies that are offered by the collections at Kew. Our recommendation was to focus more on the special opportunities offered by the collections—the living, the preserved and the opportunities to do discovery and description that Kew has special skills in. As I understand it, that is what has been carried through—that aligning of the research strategy towards those special capabilities and losing some of the stuff around the edges that other institutions in the UK do very well.

Q14 Graham Stringer: What has been the most significant piece of work done at Kew over the last 10 to 15 years?

Professor Mary Gibby: One of the major things that have happened at Kew has been the Millennium Seed Bank, which has been going for about 12 or 13 years now. It has been enormously successful. It has set a standard across the world for seed banks, and it works in collaboration with many different countries. It is great in capacity building, helping to establish seed banks in other parts of the world, and working with the big agricultural seed banks as well. That has been one of the major successes. Another one is that Kew has been leading on the whole re-classification of angiosperms, which has been led from the Jodrell.

That has been work in partnership with many other people. It has taken forward the whole issue of how plants are classified, based on DNA data, and that has turned the traditional classifications on their heads.

Also, with support from the Mellon Foundation, it has moved not only Kew but other organisations around the world to start digitising their herbarium specimens, starting with the type specimens, the ones that the names are attached to. Kew started that with the Mellon Foundation, and then the Mellon Foundation rolled that out, first of all, in Africa and south America, and then across the whole world. The digitisation standards were set as part of that project, and Kew has worked with people all over the world in helping to train them to do that digitisation. Those are just three examples that I can mention.

Q15 Graham Stringer: Scientists and scientific departments are often assessed on the number of citations from that department, perhaps obsessively assessed in that way. In the written submissions we have received, Kew is said not to be assessed in that way because of the nature of the work in classification and taxonomy. Is that a fair defence for having a different method of assessment?

Professor Georgina Mace: I have been working on one of the REF panels looking at this sort of data from universities. It would not be a fair way of judging the collections-based research such as we have at Kew. That is not to say that Kew's science should not be assessed on that, but it would need to be interpreted in the light of the fact that some of this taxonomy description, floras and so on, has a much longer lifetime than a lot of science does. If you look at citations over a short period of time, there will not be very many. This is knowledge that will last for hundreds of years. The angiosperm phylogeny probably has a massively cited set of papers, but that will go on being important for decades to come, whereas what does really well in REF-type assessments are short, sharp papers that have an immediate impact. A lot of the stuff at Kew would not score well on that.

We have made a recommendation that it would be perfectly possible to come up with a method for looking at scientific performance of collections-based institutions, such as Kew and the museum. NERC has done something similar for its own institutes recently. It is not that there is only one way to do this that the REF has got right. You have to make it fit for purpose and I am sure that that could be done.

Q16 Graham Stringer: As a final question from me, are the right scientists in place now to deliver the right strategy for science at Kew?

Sir Neil Chalmers: I can only really answer that in relation to what was happening at the time that I did the review, which was five years ago. So I do not have detailed knowledge. There are certainly some very good scientists, indeed, here at Kew with the right expertise. In many ways we are going to have to wait to see what the science strategy looks like, which I believe is being published by Kew early next year, and see what skills are needed to deliver it. I, personally, feel quite confident that there are very good people here who will be able to deliver the strategy, but we will need to look at the strategy first.

Q17 Dan Byles: Is science Kew's core business?

Professor Mary Gibby: It is one of Kew's core businesses but it is not the only one. That is the challenge for funding a place like Kew, because it is delivering excellent science, which probably fits very well within DEFRA's remit, but it is also really important for culture and heritage. That is not only the landscape and the garden, but the collections themselves have a rich heritage. They are all about who went out and collected the plants and where they come from. It tells the history of the exploitation of the empire, among other things. That is a DCMS issue. It is also working across many countries overseas, helping capacity building, which is more within a DFID remit. Then it is educating. It is an ambassador for the UK. It is part of the UK's brand. Kew delivers across a very wide field. Science is a really important part of it, but it is not the only part by any means.

Sir Neil Chalmers: I would agree with that. It is one of two core activities. Kew does science and it displays science to visitors and to the world. The trick is to keep those two together successfully reinforcing each other. It is a wonderful thing when you can do it and it is what makes an institution like Kew special.

Q18 Dan Byles: Given that science is one of the two core businesses for Kew, does it concern you that Kew is being restructured with some capacity loss before the science strategy is published?

Sir Neil Chalmers: I would like to think that the restructuring has in mind the strategy that is going to be published early next year. I honestly don't know because I have not been talking to the management of Kew at all. That is a question that one would have to put later on this morning. My concern is that a loss in science staff must reduce the ability of Kew to carry out its fundamental science. As I said earlier in response to a question from Mr Metcalfe, that really does threaten the future ability of Kew to deliver top-class science and to fulfil its statutory duty.

Q19 Dan Byles: That is really the core of my question, which is that without a published science strategy document how can we have confidence, or do you have confidence, that the restructuring is an evidence-based and output-led restructuring rather than simply salami-slicing?

Sir Neil Chalmers: I would just have to repeat by saying that, until I see the strategy, I would not know. I would hope that the two are being—

Q20 Dan Byles: Is that not the problem? If you don't know, you can't have confidence. You are being very diplomatic, Professor Chalmers. Does somebody else have a view on that?

Professor Georgina Mace: The strategy has not been published in its full form; that is due next year. But there is an outline of the major themes for this strategy, which are very different from the structure of the science when we did our review here in 2012. In

particular, it has been streamlined and focused on these areas of high priority. We understand, and obviously we are not part of Kew, that the restructuring has been around that new streamlined structure, which I would say looks extremely sensible and along the lines of the recommendations that our report made.

Q21 Dan Byles: Perhaps I am being overly concerned by the lack of the actual published document. You do have confidence that the restructuring and the work that has been done to produce the science strategy looks like it has gone hand in hand.

Professor Georgina Mace: Yes. I have not been involved in it, but, certainly, from what I know, the major themes in the new strategy have formed the basis for the restructuring.

Dan Byles: Thank you. That is very reassuring.

Q22 Pamela Nash: Good morning. Sir Neil, you touched on the Lords Science and Technology Committee's report previously. They mentioned in that report that underfunding was challenging public sector research establishments to fulfil their requirements. Do you think that this has impacted on Kew, and do you think that Kew has suffered from falling between the cracks, as it were, because of the specific type of establishment that it is when it comes to funding?

Sir Neil Chalmers: Kew, over the last five years, has seen both a diminution in the operating grant from DEFRA and a very great increase in its own self-generated income, for which it should be congratulated. That has reduced the impact of what would otherwise be an extremely damaging fall in the funding of the infrastructure. What Kew needs for the future is some sort of stability so that it can plan properly for its future work, so that it is not suddenly finding that it is short of £5 million or suddenly getting a welcome but unexpected uplift of its funding from DEFRA. That is not the way to run an institution of worldwide significance like Kew. It needs that stability. That is one of the most important things that I wanted to try and get across this morning.

Q23 Pamela Nash: I think we have heard that loud and clear. Could I ask the other witnesses if they have a view on this?

Professor Mary Gibby: Certainly I would agree with Neil that stability is what is important. It is great to get some extra uplifts, as announced yesterday, but, in the long term, you need to have a five-year plan and longer, because this is an organisation that is part of the national capacity. The funding cannot fluctuate too widely, otherwise you just erode that national capacity. If jobs are not secure in a place, then you can't attract the best people to come to that place to deliver that national capacity. Security of a funding level is very important. Yes, Kew has been very successful in getting external funding, but that can only go so far. Too many other resources cannot be put in to bringing in the funding because that is going to erode the possibility of employing staff to do the fundamental science.

Q24 Pamela Nash: When it comes to external funding, would you be of the opinion that that external funding, for which Kew should be congratulated, should be used for additional work, and that it should not be depended upon to fulfil the national objectives?

Professor Mary Gibby: Some of that money can be spent on national objectives, because Kew has a good track record. Well over half the funding is coming in from external sources now. It is getting the balance right. This is where the funding department and Kew need to work together to work out what is best to maintain that stability within the organisation. That is what we want. We want stability. We want adequate funding over a longer period.

Q25 Pamela Nash: Are all three of you confident about the Government's opinion and support of Kew Gardens, or do you think that its role and importance in the science community in the UK is not currently appreciated in the Government, and could that be improved upon?

Professor Georgina Mace: If we think about Kew as primarily a scientific institution, it is difficult in DEFRA because the comparable institutions are in different Government Departments. It seems to me to make sense that, if you have got similar kinds of institutions, collections-based scientific national infrastructure, which is true for Kew, the Natural History Museum and some other places that are comparable to it, then they should have the same kind of relationship with Government. I cannot comment on exactly how that should be, but it does seem to overcomplicate it to have them in different Departments with different kinds of arrangements, and to have to make these funding agreements on a different basis every time they come along.

One of the things that our review found was that DEFRA was not terribly clear with Kew about what they wanted for the funding. They were clearly proud of Kew as a jewel in the crown but were not very clear about what they expected for the money. It was a rather overcomplicated funding relationship—a continual to and fro about what money was wanted for what—whereas if you are funding infrastructure, a ship, a satellite or whatever, you maintain that infrastructure; that is very clear; and then additional funding can be sought to do work that builds on that. We did not feel that there was that kind of understanding.

Q26 Pamela Nash: Thank you. When the reductions in funding were announced by the Government, are you confident that the Government had made an informed decision when they did this? Did they consult widely enough on the impact that this would have on science in the UK, or do you think that this was done just as a financial measure?

Professor Georgina Mace: I have no knowledge of how that was done. I am sorry.

Sir Neil Chalmers: I would say the same. I have no evidence about the basis on which DEFRA made its decisions.

Q27 Pamela Nash: Can I ask it in another way, then? Do you have any evidence that there was a wide consultation by the Government?

Sir Neil Chalmers: I have no evidence that there was a wide consultation. I do know that when we conducted our review there were statements by the then Minister to the House of Commons that the review's recommendations and DEFRA's response would be published in detail. I have not been able to find any evidence of any such response by DEFRA. Since several of the recommendations concerned the future funding of Kew, as well as the nature of its science, that is a matter for concern. I am not very confident on the basis of that that there was a detailed taking of evidence by DEFRA, but perhaps that is something that will emerge in your questions later.

Professor Mary Gibby: I am not quite sure whether, when DEFRA cut the funding, they had discussed with Kew where that would impact as well, and whether they knew that that would impact particularly on the science. I have no evidence of how those decisions were made and how they sought advice on them.

Pamela Nash: Thank you very much.

Q28 Stephen Mosley: We have heard today, and we have also seen it in the written evidence, the comparisons between Kew and the Natural History Museum. The Royal Society, in their evidence, pointed at the Natural History Museum. Do you think it is a fair comparison to compare Kew with the Natural History Museum?

Professor Georgina Mace: Yes, to a large degree, because they share this common structure of being a large scientific organisation, with collections-based research with a public-facing function as well. As Sir Neil has said, that is a very special kind of thing. Of course, there is an important difference, which is that Kew has a living collection and has the gardens. As a result of that, Kew probably has more international work on discovery, surveying, working on regional floras and so on. Kew has another dimension that the museum does not have. The museum, of course, is bigger. The reason why we mention it in our evidence is because of the observation that the two are similarly structured but they are reported in different Government Departments.

Professor Mary Gibby: There are a lot of similarities but there are also differences, so that in the science strategies—I know we have not seen the published strategy for Kew—I imagine they would differ in that a botanic garden science strategy is going to have conservation as a very important element. Things like plant health come under that—plant health for the good, and plant health in terms of diseases as well. It is going to be a different type of strategy, but there will be similar things within that strategy. From the point of view of being taxonomic institutes with collections and so forth, there are a lot of similarities between them.

Sir Neil Chalmers: Just to add to that, as a result of that similarity it is very important that Kew, the Natural History Museum and, indeed, the Royal Botanic Garden Edinburgh work closely together so that they do not duplicate, so that they use their resources very well collectively. That has happened over the years during my time as director at the Natural

History Museum—and, I know, previously. The more one sees that developing, the better it is for the country.

Q29 Stephen Mosley: In the evidence we received from Kew Gardens, they talk about the differences between restricted and unrestricted funding. The evidence from Kew Gardens seems to suggest that the Natural History Museum gets more unrestricted funding and Kew tends to get more restricted funding. Could you comment on that and what are the relative advantages and disadvantages of that?

Sir Neil Chalmers: The more unrestricted funding you have, the better it is from the point of view of somebody who is running the institution, fairly obviously. From what I have seen from some of the evidence that I have read, yes, that is correct. DEFRA defines more closely where the funds should go as compared with DCMS in relation to the national museums and galleries. I do not think that it is particularly helpful to go too far along that restricted funding route. It does mean that you are going to have to spend a lot more of your time as management arguing the case over quite detailed management decisions about the funding for them. A sponsoring department ought to have the confidence to leave it to the trustees and the director of an institution to make those decisions and then hold them to account at the end of an accounting year.

Professor Georgina Mace: I agree completely.

Q30 Stephen Mosley: We are going to have the management of Kew in front of us in a few minutes. Is there anything that you think they can learn from what happens at the Natural History Museum?

Sir Neil Chalmers: They can both learn from each other in fact. I speak from personal experience here, because when I took over the Natural History Museum as director it went through a period of considerable turmoil. We reduced staff numbers and we redefined our science strategy in a way that is very similar to the actions which the director and the trustees are carrying out here at Kew. It would be helpful for Kew and the Natural History Museum to discuss what it is like to go through those sorts of changes just so that they can share their experiences and learn how to do it as effectively as possible.

Q31 Stephen Mosley: I have to ask this question. With the benefit of hindsight, do you think what happened at the Natural History Museum was, in the long term, beneficial to the interests of the museum?

Sir Neil Chalmers: Yes, absolutely. We obtained a concentration and a focusing on the strongest areas of science in which we were active. We were able from that to build up big research programmes, to draw in a lot of money from research councils, from the EU and from many other international funding bodies. It developed the museum's science in a way that it would not have been able to do without those changes.

Q32 Stephen Mosley: I have one final question. Professor Mace, you touched on the differences between DCMS and DEFRA. How should that relationship develop between Kew Gardens and DEFRA or DCMS in the future?

Professor Georgina Mace: I cannot really comment on that, except that there is, generally, a concern about these bits of Government-funded scientific infrastructure, such as Kew and the museum, that are not fully appreciated as bits of science. DCMS has been very good for the museum. I have been a trustee at the Natural History Museum. I have seen how well that works—the handing over of the block grant against a plan—but it relies on a very good understanding between the DCMS officials and the director of the museum. That same understanding has not, obviously, been in place at Kew where that flexibility was there. Exactly how those institutions should be placed within Government is an interesting question, given that the science that they do can only be manipulated a little bit before there are big risks to a lot of national capability. That understanding of how to fund large scientific institutions is really important.

Q33 Mr Heath: I want, briefly, to challenge Sir Neil, if I may, on what he was saying that DEFRA should hand over a pile of money and then butt out. I can understand entirely that DEFRA should not be telling Kew what fudge it should be selling in the gift shop, but, when it comes to the science, this is one of the biggest resources available to DEFRA on botanical science. It is surely not unreasonable that DEFRA should be able to commission specific areas of interest and prioritise particular areas of interest in order to carry out its functions in terms of plant health, agronomy and the very wide range of plant-related subjects under which DEFRA works.

Sir Neil Chalmers: If DEFRA has very specific bits of work that it wants to be performed, it should, as indeed does happen at the moment, have a specific contract with Kew to deliver that bit of work. That is different from providing a grant in aid to carry out a broad body of scientific research in a defined area. Certainly I do not think that DEFRA should just hand over a wodge of money and say, “Get on with it. We don’t care what happens.” What you should do is agree high-level measures of performance against clearly defined programmes of work, and say, “This is what they expect from you. You are the experts. Get on and do it, and show us, at the end of the financial year, that you have done it.”

Q34 Mr Heath: And that would include assurance on areas of resilience, for instance, which might not be the academic priorities of the people working at Kew.

Sir Neil Chalmers: It could well be, and that ought to be agreed at the beginning of a particular planning period so that there is no disaster at the end.

Q35 Graham Stringer: Are you, in actual fact, saying that DEFRA is in breach of the Haldane principle, which is that, basically, politicians should not interfere with the scientific process and scientific priorities?

Sir Neil Chalmers: I am saying that DEFRA ought to have confidence in the arm's length relationship that should exist between them as a sponsoring department and the trustees, who are required to manage Kew Gardens on behalf of the nation.

Q36 Chair: Let us put the question back in the context of the scientists. You, Sir Neil, were arguing, following the kind of Science Museum strategy, that the right outcomes would filter through. It is clear from the scientific evidence that we have had from some specialist groups that there are concerns, not just here but globally. In the evidence we have published thus far, some of that is illustrated, and a few more letters have come in since from India and the United States on mycology, for example. There do appear to be gaps opening up according to that scientific opinion, although not according to political opinion.

Sir Neil Chalmers: I think that is absolutely right. This goes back to some of the questions that I answered earlier, which is that, as you reduce the staffing, your ability to cover major and important areas of activity, such as mycology and the fungi, for example, is reduced in a worrying way.

Q37 Chair: Which brings a challenge to the principle of establishing an infrastructure-based organisation, does it not?

Professor Georgina Mace: I don't see why it does. The infrastructure is the collections and the people who know how to interpret those collections and communicate them. That would be turned into a strategy, which is how the work will be prioritised and what will be the core business over the next five years. That is what is presented to Government for the funding. That is the infrastructure core funding.

Professor Mary Gibby: Kew has particular responsibility for mycology, in that it has recently taken on the mycological collections from CABI that was agreed by DEFRA and taken on some of their staff. It has been recommended that that is an issue that should not only be maintained but increased. It all relates to the relationship between DEFRA and Kew on agreeing with the priorities for that national capability. As was mentioned, if DEFRA has specific jobs that it wants Kew to do, the model at the Royal Botanic Garden in Edinburgh, working with the Scottish Government, is that the botanic garden or other research institutes can bid to do that particular work that the Government Department wants to be done over and above the national capacity; and that has worked very well in Scotland.

Chair: That has set the scene extremely well. We are very grateful for your contributions. When you have had the chance to read some of the additional evidence, if you have other things to add, we would be extremely grateful. Thank you for your attendance this morning. We will move straight on to the second panel, please.

Witnesses: **Richard Deverell**, Director, Royal Botanic Gardens, Kew, **Professor Kathy Willis**, Director of Science, Royal Botanic Gardens, Kew, **Julie Flanagan**, Full-time officer, Prospect, and **Ken Bailey**, Trade union side lead for PCS, Prospect and GMB, gave evidence.

Q38 Chair: Good morning. Thank you very much for, well, not coming today because we are on your turf, but for appearing before us. Again, for the record, would you be kind enough to introduce yourselves?

Julie Flanagan: I am Julie Flanagan. I am the full-time officer with responsibility for Prospect members in Kew.

Ken Bailey: I am Ken Bailey. I work in the Kew IT department. I have chaired the joint trade union side for the past two decades almost, representing PCS, Prospect and GMB, the recognised trade unions here.

Richard Deverell: Good morning. I am Richard Deverell, the director of the Royal Botanic Gardens, Kew.

Professor Kathy Willis: Good morning. I am Kathy Willis, the director of Science here at Kew.

Q39 Chair: Thank you very much. Just so that there is no ambiguity with this panel, our terms of reference say that we exist to scrutinise the work of GO-Science and how the Government applies that work across the whole of Government to provide science advice across its policies. Stemming from that, we do not intend to drift into matters that are HR matters. We are here to look at the science impact of the proposed changes. I hope that is fully understood.

First of all, Mr Deverell, what has driven the extensive restructuring across Kew? Was it simply about austerity imposed by Government finances or were there other drivers as well?

Richard Deverell: Good morning. I would like to start by welcoming you to Kew and thanking you for your interest in this organisation. The answer to your question, and we have been very open internally with staff, with colleagues in DEFRA and externally throughout the year, is that we are trying to achieve two things here. One is a reorganisation to ensure that Kew is fit for purpose across all of its different activities, not just science, although we can focus on science, and that we have a proper strategy, that our structure supports that strategy and the two have been developed absolutely in lockstep. The other matter, of course, is downsizing caused by the financial crisis that we faced at the start of this year. Therefore, the restructuring was always trying to do two things: first, to ensure that we were fit for purpose in the 21st century and, secondly, that we had financial health—we could live within our means. Given that about 70% of our costs are staff costs, we were, unfortunately, unable to fill the £5.5 million hole that we faced in the current financial year without tackling staff costs. Hence the redundancies and so on that I am sure we will come to.

Q40 Chair: You said you faced a crisis at the beginning of this year. Accountancy crises do not simply come out of thin air. What were the driving factors in that?

Richard Deverell: What happened was that a number of factors came together. When we were putting to bed the budget for the current financial year in January and February of this year, we had to consider a number of changes. The first was that funding from DEFRA had fallen. As you know, public expenditure is falling across most public bodies. Secondly, for a number of years Kew had received a growing grant from its philanthropic arm—the charity that supports Kew, the Kew Foundation—but they had, in effect, been handing over more money to Kew than they could sustain and their reserves had been depleted. They had, if you like, plugged the gap for the preceding few years and they had to reduce the grant that they were giving Kew. Thirdly, some costs, of course, rise. Staff costs rise, pension costs rise and utility costs rise. Those three things together added up to this hole of about £5.5 million, which is about a 12% hole in our total budget.

In addition, for many years Kew had slightly got out of these financial problems by raising its gate price beyond the rate of inflation, but we realised we could no longer do that. Visitor numbers had fallen to a six-year low and there was some evidence from visitors that value for money was no longer considered to be good. We felt that that was something we could no longer do. Indeed, for three or, in fact, four years we are going to hold gate prices flat, other than a 50p increase.

So there are a number of factors that came together, and the senior team and I had to work out in February how we were going to tackle that in the current financial year, knowing that, in addition, next year further reductions from DEFRA were likely and further pension and other staff costs were likely to hit Kew. We had to tackle not just a one-year problem but to try and ensure financial health for Kew in the longer term.

Q41 Chair: When did you first know of this additional funding that the Deputy Prime Minister announced?

Richard Deverell: The funding announced yesterday?

Chair: Yes.

Richard Deverell: It was confirmed about a week ago.

Q42 Chair: Had you known about that when you were dealing with your crisis a year ago, would you have adopted a different strategy?

Richard Deverell: This is an absolutely key point. When we were planning the budget in February, we had to work on the basis of what we knew then. The budget for Kew then from DEFRA was £21.5 million. That is about a third lower than it had been two years earlier. We had to plan on that basis. While the intervention yesterday, and, indeed, the intervention in September earlier this year, is welcome and hugely appreciated, it is a tactical intervention, it is for one year only, and in that sense it does not solve the underlying problem, which you heard from the expert witnesses is the need for stability for

scientific infrastructure and for the infrastructure of the world heritage site. We have more than 40 listed buildings here, and that is also infrastructure, though not of a scientific form.

Q43 Chair: That slightly avoided my question, with respect. Had you had that additional £2.3 million at the beginning of the year, would your strategy have been different?

Richard Deverell: Not materially, because it would have delayed the issue rather than avoided it. This additional funding is for one year only. What would we have had? We would have had a £3 million hole in our budget this year but then an equal-sized hole in the budget the following year.

Q44 Chair: If you have adopted a strategy, what are you going to do with that money?

Richard Deverell: The £2.3 million that has been adopted is for next year. We are currently in the process of agreeing budgets for next year. As I have already mentioned, we are facing, inevitably, some increasing costs in the form of pension and other staff costs, and so on next year, though it is helpful and welcome. Would we have adopted a different strategy? I don't think we would have done. I am trying to emphasise the point that most of the changes we are implementing this year at Kew are to do with making Kew fit for purpose and effective in the 21st century. Reducing costs is only an element of what we are trying to achieve.

Q45 Chair: If you find a couple of years down the line that major pieces of the strategic science that you are involved in are being damaged, will you change the strategy?

Richard Deverell: Being damaged as a result of?

Q46 Chair: The reductions that are going on now.

Richard Deverell: The biggest risk we face is funding volatility. One of the urgent priorities for Kew is to grow self-generated income in order to act as a cushion against volatility in Government funding. We have grown self-generated income by 50% in the last three years, and I am confident that we can continue to grow that. The strategy is trying to achieve a number of things. It is about better career development; it is about much clearer focus on scientific outcomes; and it is about a simpler and more streamlined structure, for example. One of the things we are trying to do is, yes, cost reduction. The best mitigating action for that is to make a strong argument to Government and, separately, to take our own future in our own hands and grow self-generated income. We are trying to do both.

Q47 Chair: Does anyone want to add anything at all?

Julie Flanagan: Certainly, our understanding is that the drivers have been austerity in relation to the science reviews that have taken place. Kew made it absolutely clear when we started consultations on the restructure that the funding crisis is what has led to job cuts. If Kew had not been facing a funding crisis, certainly they would have gone ahead and restructured. There is no disagreement that Kew needed to be reviewed and restructured, but it is austerity that has caused the job losses.

Q48 Stephen Metcalfe: The main thing we have been contacted about and which most of the evidence revolves around is the job losses. People have contacted us about those. You made it pretty clear that it is a combination of both the restructuring but also the financial situation. You talked about growing income and restructuring your finances. We heard from the first panel that there is likely to be an impact on the science that is being conducted here at Kew by the reduction in the number of scientists. Is it not worth maintaining that and having a longer-term strategy so that you can keep both the science but also restructure over a longer period? Why does it have to be quite so rapid?

Professor Kathy Willis: If I could come in here, I have been in this job for just over a year. When I arrived I had a very clear set of objectives, and one was to take and tackle the two very critical science reviews we had had in the last two years. One of the main things was that the science at Kew was being undertaken under the three buildings—the herbarium, the Jodrell and the MSB. I became aware quite quickly of a lot of duplication of posts, because the science was being focused around the buildings rather than across science themes.

The next thing I inherited was the requirement to reduce the budget by £800,000 and to lose between 40 to 50 positions. Clearly, nobody wants to come into a new job with that set of targets, but when I sat down and worked out how much duplication there was across the organisation, most of the positions that have been lost so far have been through duplication of posts rather than core and absolutely fundamental parts to Kew science. For example, we have not lost a single position in curatorial expertise. We have maintained all of the band B curators, the people who are doing the day-to-day management of the herbarium collections.

Mycology is another one that I know has come up several times. There is quite a lot of misinformation right now. I have increased the number of mycological positions by five in this new structure, including a new senior research leader in plant health and mycologically-based plant health, which very much leads on to the DEFRA requirements for us to be important in biosecurity but also maintaining a world unique collection in mycology. So there is a mixture.

Understandably, when we are having job losses, it is a big problem, and I fully appreciate that, but right now what we have going forward is a very strong work force to deliver. We are now at the bones; we can't go back; we can't go any further. We can build on this with research income.

Q49 Stephen Metcalfe: Thank you for that. How long has the duplication been allowed to drift? I want to make sure that I heard correctly the number you are talking about. We are talking about 40 to 50 posts—

Professor Kathy Willis: Forty-seven.

Q50 Stephen Metcalfe:—that are going to be lost and a saving of £800,000, which will go towards bridging that £5.5 million funding gap.

Professor Kathy Willis: Absolutely, yes.

Q51 Stephen Metcalfe: Has the duplication just built up over years?

Professor Kathy Willis: It has evolved. It is one of these situations that occurs in many departments across the world. I am sure it happens where you have people focusing on their own part of the science. There was poor communication between the three buildings, and that was one of the things I had to instigate very quickly through a seminar series and a lot more communication across the departments. You will find that certain things have the same specialism in each of those three buildings. I have focused it around core areas of Kew science, bringing those people together.

Q52 Stephen Metcalfe: Thank you. So the accusation that the science will be impacted by the reorganisation is something that you do not recognise.

Professor Kathy Willis: I do not accept that, no.

Ken Bailey: There are alternative points of view to that. Science has certainly taken a larger share of the budget cuts that Kew has had to implement—disproportionately perhaps. A view held by staff, perhaps, is that science is seen as the soft target within the organisation; because other areas of the gardens are either essential and cannot be cut any further, or that they have got greater opportunity for generating funds themselves, they are seen perhaps as more key and their targets have been set more generously, or at least less aggressively, than for science. The science portfolio has certainly been targeted the most and the number of staff cuts is primarily hitting science harder than all the other departments.

Julie Flanagan: I want to comment on some of the impacts. The Millennium Seed Bank—the Wellcome Trust Millennium Building—was designed to integrate the various teams that deliver outputs. The seed conservation department has been lost in the new structure. It has been broken up and diluted into, I believe, six new clusters. The staff who are working in those areas do not believe that there is a cohesive and focused group of scientists now working on delivering the MSB business case, for instance. There are areas of work that we believe have completely stopped. We no longer have, I understand, a pollen specialist in Kew. If you look at what is happening at the moment in terms of bees, some of the decisions that have been taken about how the structure will go forward in the future are very difficult for the staff to understand.

Q53 Stephen Metcalfe: Thank you for that. Obviously you will want to come back to that, Professor Willis.

Professor Kathy Willis: I do not think that this is the place to have this individual picking on particular subject areas. I disagree with some of those comments, but we should be looking at the bigger picture here. Of course we are carrying on with the Millennium Seed Bank. Of course we are going to hit the required targets. It is one part of what Kew does. We now have a collections department. Never before did we have a centralised collections department where we knew what seeds we had in relation to what herbarium sheets we had in relation to what we have in the garden. We have to manage these things. We have to look at them going forward to say, “What is the best way for managing our seed collection within the Kew collections as a whole?” Everything we have done so far in terms of the restructuring has been to try and streamline and make it more coherent for everybody, both the scientists within Kew and to the global community. That is where we are heading.

Q54 Stephen Metcalfe: Thank you and I will come back to you in one second. Perhaps you are not getting that message across to the community outside of Kew—

Professor Kathy Willis: Yes.

Q55 Stephen Metcalfe:—because, without the vision being shared and understood, I can understand why the staff feel that they are taking a disproportionate amount of the impact.

Professor Kathy Willis: I agree. I think that is a fair point and a fair comment. I should add, though—we had a comment earlier about the strategy—that the strategy process started this time last year; and 250 staff have contributed in working groups towards the strategy so far. There has been communication on all of this ongoing; it is even on the web now. We have had a number of away days and everything else to communicate this.

Q56 Stephen Metcalfe: Thank you. Mr Deverell, did you want to say something?

Richard Deverell: Let me add a few points.

Stephen Metcalfe: Yes, please.

Richard Deverell: It is a substantial and contentious restructuring of Kew science. If you read the recommendations of the Chalmers review and the Mace review, they convey that significant change is necessary. We have had a department called the herbarium since the 1840s. We have had a department called the Jodrell since the 1860s. They are no longer departments at Kew. Kew science has been restructured around six research themes instead, bringing together, for example, collections or conservation across all of the different buildings. We believe it will make a material impact in the quality and overall contribution of Kew science as a result of that.

It is worth remembering that, after the restructuring, we will still have 216 full-time staff in science at Kew. Science is the largest department at Kew, so, yes, it does have the largest number of headcount reductions, but it also has 48 project-funded scientists, who have been wholly unaffected by the restructuring because they are project funded, not core funded. There is not an equivalent in horticulture or in other parts of Kew. So they are relatively protected in terms of overall scientific firepower. The MSB had to be part of that restructuring. In many ways, the MSB is the least affected by the changes at Kew. Our commitment to the 25% of the world's seed bank by 2020 remains. Our commitment to the 90 projects in the field remains. In many ways, it is the least affected part of Kew science.

Stephen Metcalfe: Thank you very much.

Q57 Chair: Can I just be clear because, without going into the detail, there are lots of these detailed areas where there are specialist stakeholders who have interests not just here but globally.

Professor Kathy Willis: Absolutely.

Q58 Chair: I was reading the debate in Westminster Hall yesterday, and it had one extraordinary feature with it. To the left of me was John McDonnell and to the right of me was Sir Gerald Howarth. In parliamentary terms, that is about at the political limits. There is an absolute agreement about this. John McDonnell made a case for a different model for funding the gardens. He welcomed the opportunity to get all stakeholders to come together on a cross-party agreement to look at the long-term financing. Sir Gerald Howarth considered that we need a fundamental long-term solution to preserve the fantastic work being done in Kew. Does that unite the four of you? If so, Mr Deverell, will you lead that?

Richard Deverell: I can't put words in my colleagues' mouths, but I suspect it does. I would say that we have had a very good relationship with the trade unions through this year. We all want to see a strong and successful Kew, and that requires two things. It requires a sustainable quantum of funding and a greater stability of funding. The points that were made towards the end of the previous session about restricted and unrestricted is, for me, a key point. This year nearly half of our total funding comes in the form of unrestricted income. You have to bid for that each year. You do not know whether you will get it next year or not. It also means, in effect, that our colleagues in DEFRA rather than at Kew are deciding whether a path is restored or a bit of science equipment is bought and so on. It seems to me, as Sir Neil Chalmers said, that those are decisions best made by people within Kew. It is not the funding model enjoyed by the Natural History Museum. They received £44 million this year, and 96% of that is unrestricted. They have the freedom to choose how that money is spent and they are held to account properly on how they spend that money.

Ken Bailey: I would like to endorse the comment there around working together. We certainly have traditionally enjoyed relatively good industrial relations at Kew. The people

who work at Kew are here because they are passionate about the work they do. That certainly unites staff and management.

Q59 Chair: So you would welcome such a long-term strategy.

Ken Bailey: Absolutely. We have been suggesting it all along. It is us who have been pushing for it.

Q60 Pamela Nash: Professor Willis, you referred earlier to the incidence of duplication of worker and expertise that you found when you came here. Are there other examples of that? I am interested to know how much the funding cuts to Kew Gardens have been driven just by the austerity measures of the current Government, or have a fair amount of savings been shouldered by Kew Gardens?

Professor Kathy Willis: That is a very good question. Up until now, the vast majority of the positions we have lost have been through this question of duplication, although not only within Kew. If you look at the major collections that the Natural History Museum and Edinburgh have, should we be duplicating across the UK, or should we be saying, “You work on this part of the collection or from these regions of the world, and we will focus on this aspect of the science or these collections”? But there does come a point, and there is a fine balance, where you can take it too far. If you have only one specialist in a particular area, then, as in any organisation, there is a big risk that if that person goes under a bus you really are stuck. We have to maintain a critical mass of particular skills in taxonomy and in maintaining the collections, but also the skills and scientific knowledge you need in order to identify the next plant pathogen, for example, in plant health. Those are the skills we also need to build up now in Kew. As a result of the restructuring, a number of positions will be advertised, whether they are in new areas or areas where we need the specialism to come in, to use our collections to build the science up.

Q61 Pamela Nash: While we are talking about duplication of expertise, is that not still a loss to the science community and Kew Gardens? I am presuming that you do not need just one person within each skill set here in order to maintain its functions.

Professor Kathy Willis: The duplication of expertise has predominantly been in areas that I would argue are very well covered by universities. If we come back to what our core function and business is, it is collections-based research. It is on that aspect where I would argue, on the whole, we have managed to maintain all of those core people.

Q62 Pamela Nash: Thank you for that. Can I ask for more information on the costs that are incurred here in relation to the heritage function of the facility? The example that we have been given is about the Convention on International Trade in Endangered Species. In relation to that and other heritage functions, what is the cost for Kew Gardens and has that been fully met?

Professor Kathy Willis: With the legislation such as the Convention on Biological Diversity and CITES, we have reduced that team by one-and-a-half, I believe. We had discussions with DEFRA. We are fulfilling all of our statutory obligations with that number of people. Across the board, we had to make some very hard decisions when it came down to certain areas. Can we maintain our output on that? Yes, we can. That is where we are. We would like to build that team further, and we will do so with project funding.

Richard Deverell: With regard to heritage, this is a world heritage site, as I am sure you know. We have more than 40 listed buildings here, seven of which are grade 1 listed. With that, inevitably, comes expense. I suspect that Kew has suffered from a lack of unglamorous but essential maintenance for many years, such as gutters, drains, paths and so on. While we have a very strong track record in fund raising through philanthropic sources for glamorous projects—an example is the construction of the new Alpine House, which is just behind you, for instance, if the curtains were drawn—it is much, much harder to do fund raising for toilets, cafes, paths, drains and gutters. We estimate that it costs about £8 million a year to maintain the built infrastructure here, not the plants, not the science, but the buildings and the paths. Unfortunately, because of the pressure on DEFRA budgets as a result of the floods and so on, the capital budget that we get annually from DEFRA has reduced quite sharply this year. We hope, of course, that that is for one year only, but we have to ensure a proper dialogue with DEFRA as part of a mixed-funding model so that we secure appropriate funds to maintain the world heritage site here at Kew. If you went into the Palm House today, you would see rust and algae that you should not see. If you go into the main reception today—it has now stopped raining—you will see a bucket catching drips because there is a hole in the roof. This is not a recent problem. I suspect that it is decades of underinvestment. We need to have an intelligent conversation with our colleagues at DEFRA about the sustainable level of funding, in part to address this backlog.

Q63 Pamela Nash: Do you think it is reasonable that any of that funding would come from external sources, or should that be maintained as a result of core funding from Government?

Richard Deverell: It is absolutely essential that it comes from external sources, and it already does. For instance, one of the things I am actively pursuing is corporate sponsorship of the Palm House. If we could find a corporate sponsor who would give us, say, half a million a year for five years to maintain that building and the plants within it to a pristine standard, that is exactly the sort of thing we are actively pursuing. We are currently restoring the Temperate House. It is the largest building at Kew, grade 1 listed and 628 ft long. The total cost of that is £35 million, of which only £10 million came from DEFRA. It was a greatly appreciated £10 million. My point is that it is only a third of the total. The rest came from the Heritage Lottery Fund and private philanthropy.

For those big projects, we can, absolutely, get support. My concern, as I said, is the underlying and unglamorous paths, toilets, gutters, electrical cables, heating systems and so on, and it is very hard to get private philanthropy to support all those projects, particularly if they feel—this is why it is a delicate conversation—that what they are doing is offsetting reductions in Government funding. What is really effective is if the

Government and Kew can go jointly to private philanthropists and jointly agree a mixed-funding model, as we did with the Temperate House. There is an excellent precedent there.

Ken Bailey: Let me pick up a few points, if I may. On the heritage impact on science, at the moment the heritage budget vies with the rest of the unrestricted funding. That is why things are the way they are. With a relatively small, unrestricted pot to play with, the drains, the gutters and everything else have to compete with staff salaries, on the other hand, and, obviously, the scientific capacity that the organisation has. So there is a place.

Q64 Pamela Nash: What would you see as a reasonable alternative?

Ken Bailey: Certainly having less restrictions on the funding, as has already been discussed, is something that would seriously help, because that gives an agility within any financial year of moving things from one place to another to be able to replace the bucket. It is that sort of thing. That is one side of the coin. The other side is that the state is the landlord. There is a certain amount of responsibility on the state to fund the infrastructure of Kew. I do not think that one should expect private philanthropy or the public to put their hand in their pocket to pay for the bucket.

Q65 Chair: Following on from that, you keep referring to DEFRA, but some of the headings normally belong to other Government Departments. We also understand that, following the closure of the Forensic Science Service, you inherited some work in terms of taxonomy of seeds from them. Did you get any additional money for that work? If not, why not?

Professor Kathy Willis: I do not know the answer to that. We can find out, but it was before my time. That is all I can say about that. I am aware of things being moved over into our portfolio, even in the past year, where, unless they come with funding, we cannot fulfil those additional requirements.

Chair: It would be useful to have a list of such items.

Q66 Dan Byles: Professor Willis, I want to come back to an issue that we have probed you on a couple of times already, which is about this restructuring and the duplication.

Professor Kathy Willis: Yes.

Q67 Dan Byles: You said that the restructuring predominantly removes duplicated posts, which is understandable.

Professor Kathy Willis: Yes.

Q68 Dan Byles: But has there been, in addition to that, a reduction in capacity and/or breadth of the science done?

Professor Kathy Willis: Originally, where we started was partly through asking all the staff what they were all doing and we started to understand what the science was across the organisation. Then there are some areas that were clearly beyond the remit of what Kew should be doing. We are predominantly a collections-based research outfit. Restoration ecology is one area where we were the ones going out digging the holes in the fields. That is work, I think, for partnership. That is not work for Kew to do. Our scientists, I felt, are better based here doing the collections-based science on conservation science, for example, or natural capital and plant health. They should be the ones providing the scientific output to hand over to the larger conservation organisations, like WWF UK to do the restoration in the field. That is one area where we have cut back. We will no longer be doing the restoration ecology in the field but we will be doing the science that underpins it, and then handing that to the partners. That is one area that I would say we have lost.

Q69 Dan Byles: Does that also represent a shift in policy rather than just capacity in terms of the direction of what you are doing? The evolving scientific strategy that we heard from the earlier session, although it has not been published, has been informing the restructuring work.

Professor Kathy Willis: It has, yes.

Q70 Dan Byles: Is it the case that there is a shift in your policy away from a degree of blue-skies science and closer towards Government priorities?

Professor Kathy Willis: No. Clearly, we do need to be working closely with the Government because we do need to fulfil some of the requirements of DEFRA; that is exactly right. But, in relation to science, only 40% of our science budget is funded by DEFRA, 40% comes from philanthropy, where people want to support particular things, and the other 40% is—this doesn't add up, but you'll get the general idea. Basically, the third part comes from research council funding. In relation to the blue-skies science that we can do from our collections, we should be going to the research council funding to do that. When we do apply, and we have been increasing the number—there has been a huge increase in the last year in the number of people who have applied—our success rate is good. It is between 30% to 40%, which is well above the university average.

Q71 Dan Byles: We have received evidence from some people who are concerned that there is a shift in science policy that is not entirely related to the funding. For example, Dr Paul Smith, the former head of the seed conservation department at the Millennium Seed Bank, said he fears that by December 2017 much of the damage will already have been done due to a fundamental shift in science policy that is only partially related to the Government funding cuts and that has not been acknowledged or debated.

Richard Deverell: I think we are at risk of conflating different points here. What we have tried to argue throughout this is that we are, absolutely, developing a new strategy. There are new emphases and new areas of focus. We have, for instance, put a much greater focus on collections and collections management across all the disparate collections. There are about 30 in total. There has been much greater investment in mycology and plant health. There has been greater clarity around conservation. We have a whole department now headed up, focusing purely on conservation and conservation research. So, yes, absolutely, there is a shift in our emphasis. There is far greater clarity, as we published in February, about Kew's scientific output in the next five years than there has been at any point in Kew's recent history.

Q72 Dan Byles: How widely has that policy shift been consulted on? We have got the Millennium Seed Bank describing it as “the damage being done” rather than it being an exciting new policy direction.

Richard Deverell: It won't surprise you to hear that I disagree with the comments in Paul's submission. There are some quite glaring factual errors in it, which I will be happy to clarify in writing with you subsequently. I said earlier that it has been a contentious shift. This is the most fundamental shift and re-shaping of Kew science possibly in a century. I would absolutely argue that not only is it necessary but it is essential. If Kew is going to make a valuable contribution to some of the most pressing issues facing humanity in the 21st century, we had to rejuvenate what we were doing. We had structures and policies, some of which dated back to the early 19th century.

Q73 Dan Byles: So some of this would have been done regardless of the financial situation.

Richard Deverell: Absolutely. I could not emphasise that point too much. I stood up in staff meetings in February and said that we would need to make significant changes in restructuring across the whole of Kew irrespective of the funding. We would be doing this even if our funding was rising. Yes, the funding added an urgency to it and, perhaps, drove the timetable, and, yes, it required us to reduce headcount with a net reduction, we estimate, of 100 posts, across the whole of Kew. We had to make Kew more effective, to improve the quality and the impact of our science. Crucially—we have not talked much about this—we had to ensure that anyone visiting Wakehurst Place or Kew Gardens understood more about why plants, plant science and conservation matter. It is absolutely essential that we do that to improve the quality of horticulture. We have, for the first time now, in our horticulture structure a department solely focused on the living collections, with a proper database. That simply did not exist before. I could not stress too much that the gist of this restructuring is primarily about improving the impact and contribution of Kew as a world-class public body. The funding is part of it but only part of it.

Q74 Dan Byles: You do not see this as DEFRA imposing change on you in terms of policy. Leaving aside the funding side, you do not see this as DEFRA leaning on you, in any way, to

realign what you do more closely with Government objectives rather than your own scientific objectives.

Richard Deverell: No, I really don't. We have a proper dialogue with DEFRA. We have shared the emerging science strategy with their chief scientist, Ian Boyd, on multiple occasions. He has provided very helpful feedback, some of which we have taken on board and some of which we have not. We are an independent charity and we determine our policy, but DEFRA is a key stakeholder for us, and we have an intelligent and productive dialogue with them.

Ken Bailey: Let me correct a factual error. There was, previously, a living collections department at Kew. It was an autonomous department with a head of department that spanned both Kew and Wakehurst Place. My history is slightly longer than Richard's.

Richard Deverell: It was scrapped.

Ken Bailey: It was scrapped previously and it has been reinstated partially. That scope does not span the two sites in the way it used to do. Let me pick up on a few points that have come out there. The headcount reduction, to pick up on the question around capacity reduction, gives budgeting an approximation of about £30,000 staff cost per head. Even at 100 staff, that is an annual cost of £3,000,000. The sort of money that is being talked about and the sorts of job losses that are going with it, and the capacity losses, are inevitable. What the people are doing is one thing but how many people are doing it is another. That, clearly, does not quite add up with the amounts of money that are being talked about. As to the figure of £300,000, even if it is half a million, the money that has been announced and restored this year is much greater than that, and the money that has been put on the table for the next financial year—

Q75 Dan Byles: Can I get your position clear? You accept the need to restructure—is that right—and you accept that there are financial constraints and possible—

Ken Bailey: We welcome some of the moves for restructuring. They are things that the staff side have been suggesting for a long time; so, yes, we are certainly happy to engage in that process.

Q76 Dan Byles: It is more about some of the detail, the way in which it has been done and what has been done, rather than the fact that it needs to be done.

Ken Bailey: Indeed, yes.

Richard Deverell: I am sorry, but I must correct some things here: 100 posts is our current estimate of the net reduction in Kew staffing, from, roughly, 730 to 630. We estimate about £35,000 per person, which is £3.5 million full-year saving. We further estimate that this year we will only achieve a half-year saving. We get the full-year benefit next year. This has been a very, very difficult and wrenching change for Kew. I did not come into this job with the intention of reducing its impact or quality. On the contrary, I did not want to make a single individual redundant. It has been a tough series of changes. I would

further stress that if there was an equivalent reduction in Kew's resources, for whatever reason in future years, we would face some extremely unpalatable decisions, and they would have to include closing the garden for part of the year and they would have to include considering closing the schools' programme. We have 100,000 children a year visiting the two sites on a structured learning day. These would be very contentious issues. We would need to protect the collections-based science that was articulated by the expert witnesses earlier, and that would, therefore, have a major impact on the public offer of Kew. What is essential, and a theme throughout this hearing, is to have an intelligent dialogue with all of the stakeholders, including Government, private philanthropy and self-generated income, to ensure that this institution has a stable future.

Q77 Mr Heath: I think what I have heard is that the basis for the changes that have been made are the 2012 and 2010 reviews that we heard about earlier, and a lot of that is based on what would be the strategy irrespective of financial constraints which may or may not have accelerated it. Given that Kew does find itself in some difficulties, I think of other research institutes around the world, many of which have heritage sites. Professor Willis may or may not be associated with one which does. Many of them have stop-go funding issues as far as research is concerned. Why is Kew finding itself so exposed to these difficulties at the moment, Professor Willis?

Professor Kathy Willis: What had happened over the years, and this is something I inherited, was that we had an increase over the past 10 years in science staff on project-funded positions, which were then converted into permanent positions. Therefore, we did not have the project income to underwrite this number of science staff. If you look at the trajectory over the past 10 years, you can see that there is a particular shift and we ended up with quite a big science-staff base. This refers to what I was saying earlier about the evolution of positions in different departments or different buildings, and not a coherent examination across all of the science staff to say, "Do we need another person in x?" Yes, it is something I inherited basically.

Q78 Mr Heath: Would you say that that is a consequence of a lack of previous strategy, which is, after all, what the review said?

Professor Kathy Willis: Yes. That is exactly right. There was not a clear science strategy, and that is exactly what both reviews recommended. We are now, clearly, having to act on that, and rightly so.

Q79 Mr Heath: Mr Deverell, can I turn to you for a moment? You probably remember the famous or infamous advertising campaign from the V&A "An ace caff with quite a nice museum attached". Do you feel that you have an ace garden with quite a nice science base attached?

Professor Kathy Willis: Choose your words.

Richard Deverell: The point was made very eloquently by the expert witnesses earlier. To me, the research that Kew does and the collections that Kew has, both living and preserved, and the ability to engage and inspire the public with science, the importance of plant science, the importance of biodiversity and of conserving biodiversity, are absolutely two sides of the same coin. I sometimes say in staff meetings that, if I achieve only one thing during my time as director, I would like Kew to be seen by all of its stakeholders—and crucially here I am referring to members of the public—as a world-class science and conservation organisation. No one could spend time at either Wakehurst or Kew and not learn something about why natural biodiversity matters, why plants matter and why we need to understand them and conserve them. You can link it to food security, climate change, the sustenance of charismatic animals, medicines, access to fuel, shelter and clothing. All of these things, ultimately, are, typically, derived from plants. As a society, we face some very pressing areas. Our job is to bring alive those issues in a way that is stimulating, creative and inspiring. I rather hope that the professor of science at Kew in 30 years' time will have been inspired as a child by visiting Kew or Wakehurst and having their first introduction to that world as a child. To me, they are inseparable sides of the same coin. I would also add that we can improve our catering.

Q80 Mr Heath: I have to say, having partaken of your catering previously, it seems pretty good.

Richard Deverell: Okay; good.

Q81 Mr Heath: Would it be oversimplistic to say that, basically, there are three institutions working here? There is an historic set of buildings in a setting, which have all the issues associated with a heritage site. You have a set of collections that need to be curated and maintained, which are a priceless substratum to science here and elsewhere, and it is a national resource. Thirdly, you have the science which works on those but also works away from those, which is sometimes project based and sometimes it is not, and sometimes relates to DEFRA imperatives or others. Those three segments all have different funding needs and all would benefit from different funding solutions. Is that an oversimplistic view?

Richard Deverell: Your characterisation of what we do—the different facets of Kew—is exactly right, and, again, on the interconnectivity between them. The Palm House is not only an extraordinary grade 1 listed building, but it is also the home to priceless and irreplaceable collections of tropical plants of course. There is a very strong argument to be made, and Kew needs to make it with evidence and clarity, about the different levels of public funding that each of those activities merits. For instance, I would argue that maintenance of the national collections—that science infrastructure that was referred to in the first session—is an area where I would expect Government to make a significantly higher proportion of the contribution than perhaps in some of the visitor-facing aspects of what Kew does. Even there, with the ability to engage and inspire the public to illuminate complex issues of societal base, such as GM, food security and so on, I believe there is a case for some level of public funding in those activities as well but perhaps at a lower level.

Mr Heath: Thank you. That was very helpful.

Q82 Chair: Finally, Professor Willis, during your evidence you said that some of the information we had received about mycology was based upon inaccurate interpretations of the facts. While we have been speaking, I have had another e-mail from three former life presidents of the Mycological Society of India that describes this place as “the Mecca of mycology”, which is a nice phrase. It is hugely important in terms of Britain’s reputation that if you believe that information is inaccurate it is corrected, hopefully in a collegiate way, but we would ask that you do respond directly to some of the people who submitted evidence on a global basis.

Professor Kathy Willis: Absolutely. If I can come back, I have been receiving those e-mails as well. I have responded to each and every one so far, including the president of the International Mycological Society, to point out the errors. We had a very good dialogue and he came back saying that, indeed, he had had misinformation. We will do that, absolutely.

Q83 Chair: I would be grateful if you could copy those to us, please.

Professor Kathy Willis: We will do that, absolutely; yes, I can do that.

Chair: Thank you very much. Can I thank the four of you for your attendance and hope that you can address the bits of the discussion that we are not here to help you with? We are all committed to seeing the science maintained. Obviously, we are all constituency Members of Parliament and we are interested in the jobs issues as well, but that is not our remit here. Thank you all for your attendance this morning.

Witness: **Lord de Mauley**, Parliamentary Under-Secretary for natural environment and science, Department for Environment, Food and Rural Affairs, gave evidence.

Q84 Chair: We are now moving to our final witness, Lord de Mauley. Welcome to you and apologies for keeping you hanging on. As you have heard, there have been some interesting exchanges. First, Minister, when did you first hear of the additional £2.3 million?

Lord de Mauley: Good morning, Chair. It arose out of the autumn statement, so I heard about it during last week.

Q85 Chair: So there was no hint of it when you or the Department submitted evidence to us.

Lord de Mauley: As you will understand, there is a constant dialogue not only between DEFRA and Kew but also between DEFRA and the Treasury. We had been explaining the position, so, while there was no certainty, we are always arguing for more for our various constituents.

Q86 Chair: Okay. You have heard the witnesses this morning, and it is covered in other evidence, as well as in the House of Commons debate yesterday. There is a need for long-term stability in funding at this institution. What are you doing to ensure that that is in place?

Lord de Mauley: First of all, I do acknowledge the concern. Can I answer that in three parts? First of all, the new management team at Kew have a plan which indicates that they expect to move to a break-even position in 2016-17. So the first part of my answer is to say that the £2.3 million, which was announced yesterday, is for 2015-16, and it is, effectively, to bring funding back up to about the levels that they were for the preceding several years to bridge the gap to take them to 2016-17.

The second thing that was announced yesterday, which did not, perhaps, get quite so much attention but is very important to the management of Kew, is what is known as a “package of freedoms”, which is, essentially, an additional number of flexibilities in terms of finances and management, not least among which are an ability to borrow at a very favourable interest rate, which will help the management just in terms of some of the funding pressures that Mr Deverell was referring to earlier.

The third thing is that we very much recognise this issue of a need for long-term confidence. Kew will be subject to a triennial review in 2015, and it is at that stage that we really need to bottom out these issues. I am confident that that process will be an extremely robust one.

Q87 Chair: In terms of the current grant in aid, what should it cover? We heard about the diverse parts of the organisation here: the heritage responsibilities and the core science specialities within Kew’s statutory responsibilities. What is the direct money for?

Lord de Mauley: Yes, I do think that is an important question. It should help Kew to perform its statutory objectives, its science, its collections and its estate. It should help it lever in non-Government funding—for example, from international sources, corporate sources and the Heritage Lottery funding. Of the latter, the Millennium Seed Bank and the Temperate House, for which the Government have underwritten £10 million, are examples. Subject to proper business cases, the grant in aid should fund specific capital projects. Overall, over the current Comprehensive Spending Review, in fact the level of funding has been historically relatively high and relatively consistent, although I absolutely acknowledge the concerns that management have voiced.

Q88 Chair: But there is a reduction now.

Lord de Mauley: In fact we have added this money back to more or less bring it back up to where it was before.

Q89 Chair: Does that actually add up, or are you saying more or less?

Lord de Mauley: I am saying more or less.

Q90 Chair: You are sounding like it is small change. There are quite significant gaps in there when you add these figures up, are there not?

Lord de Mauley: You know as well as I do that the Government, as a whole, have had to deal with a very severe deficit, and there are cuts across—

Q91 Chair: We understand—

Lord de Mauley: I am sorry, but it is crucial to answering this question. Those cuts have been applied across the whole of Government. Every element of expenditure is scrutinised extremely closely and we have done the best we can in the circumstances.

Q92 Chair: Yes, but the core science budget was ring-fenced. It sounds to me as if DEFRA is not treating this as part of the UK's core science.

Lord de Mauley: Oh, I wouldn't look at it like that at all. The science at Kew is absolutely critical, but that begins to take us into the sorts of issues you were talking to Professor Willis about regarding that science strategy.

Q93 Dan Byles: Minister, good morning. The 2010 independent review of science made a very strong recommendation that from 2012-13 onwards DEFRA should ensure that Kew receives an operating grant that at least maintains its value in real terms. This added sum of £2.3 million of last week muddies the water, but you did not know about that until last week, which means that DEFRA made a decision not to follow that recommendation. Can you explain why?

Lord de Mauley: Until this year, we have absolutely maintained, in round terms, acknowledging the Chair's point, level rates of funding over the current Comprehensive Spending Review; and, indeed, they are above the levels of the previous three years. But we are subject to pressures. We talk to Kew all the time to help them meet the pressures that they face and we have done the best we can.

Q94 Dan Byles: Can you take us through what the process was to make this decision? Was some sort of a cost-benefit analysis done? What sort of internal process was undertaken in order to arrive at the decisions on the budgets for Kew?

Lord de Mauley: I have explained the point about the wider Government context, and the fact that average funding over the past five years has been about £27.4 million. I have said that we have to make tough choices in terms of balancing the overall budget. As you have heard earlier, we do have conflicting pressures, such as floods, plant and animal disease outbreaks, and a number of important commitments in other areas. Kew is a hugely valued partner in delivering our strategic evidence priorities, which is why we have done the best we can to provide relative protection of its budget.

Q95 Dan Byles: What I was trying to get is that I understand that DEFRA has competing priorities and that every pound you give to Kew is a pound that is not available for flood defences; I do understand that. I am just trying to understand what the process was, whether there was a cost-benefit analysis of some sort in order to decide that this was the right allocation. Basically, is this salami-slicing or is this some sort of an evidence-based output-led review that led to this level of budget?

Lord de Mauley: If I can attack your question from a different direction, in my private sector experience, when one gives an organisation a challenge to make efficiencies, invariably that organisation rises to that challenge and it drives innovation. The senior management team at Kew has risen to that challenge, and it has produced a credible and sustainable plan for the future of Kew. We have responded to make sure that that plan can be delivered by giving them the extra funding and the freedoms I referred to earlier.

Q96 Dan Byles: In the discussions you have had with Kew, have you discussed what the impact of the budget will be on their science output? Are you content that the breadth and capacity of the science output from Kew can be maintained?

Lord de Mauley: Absolutely I have had that discussion with Kew's director of science, and she assures me that it can, yes.

Q97 Dan Byles: In terms of input from the chief science adviser for DEFRA and, indeed, the Government chief science adviser, Sir Mark Walport, can you tell us what input they have had on decisions around funding for Kew as well?

Lord de Mauley: Yes. The starting point for DEFRA was a new evidence strategy, which the DEFRA chief scientific adviser was responsible for, which was, of course, agreed with the Government's chief scientist. That is the prism through which we see our science. Certainly the DEFRA chief scientific adviser has been involved throughout the process of developing the new science strategy for Kew.

Q98 Graham Stringer: I am fascinated as to what was said when you were told a week ago that there was an extra £2.3 million. What was said? What was the justification? What were the reasons?

Lord de Mauley: For the extra money?

Graham Stringer: Yes.

Lord de Mauley: It was to bridge the gap, essentially, to the point where the director of Kew expects to take Kew to a break-even position in 2016-17.

Q99 Graham Stringer: But it came out of the blue. There was no previous discussion.

Lord de Mauley: That is not what I said actually. We are always discussing.

Q100 Graham Stringer: I am asking the question.

Lord de Mauley: I have already answered that question. There was, of course, ongoing discussion between DEFRA and the Treasury.

Q101 Chair: You did not refer in your evidence to us that there was the possibility of more money, so we have to assume that it was a bolt from the blue that the Treasury offered you. Is that correct?

Lord de Mauley: I was very pleased to be told of the money.

Q102 Chair: And surprised.

Lord de Mauley: I did not know it was coming. We had, though, been discussing with the Treasury what the constraints were.

Chair: Thank you for your honesty.

Q103 Graham Stringer: Great; thank you. To go back to Andrew's first or second question, the Government have said that they would maintain in cash terms the amount of money devoted to science over this Parliament. Has that applied to Kew?

Lord de Mauley: Yes; broadly speaking, it has.

Q104 Graham Stringer: So that Kew, over the last four and a half years, has maintained for science the same cash. That is true, is it? That is an accurate assessment of the funding.

Lord de Mauley: The overall funding for Kew.

Q105 Graham Stringer: We are talking specifically about science, because David Willetts gave that commitment at the start of the cuts process in 2010.

Lord de Mauley: I am fairly confident that that is the case, but I am very happy to look into that and confirm that to you afterwards.

Q106 Graham Stringer: Thank you. What is your understanding of the Government's responsibilities towards Kew under the 1983 Heritage Act?

Lord de Mauley: I am sorry, but could you expand on your question?

Q107 Graham Stringer: In 1983, the then Conservative Government passed an Act which said that a number of institutions would be funded and maintained in this country. Kew was one of them. What do you understand your responsibilities to be under that Act?

Lord de Mauley: I have explained what the grant in aid, in my view, is for, and that certainly includes the heritage aspects of Kew. You are aware of the constraints we operate under and we do the best we can in the circumstances.

Q108 Graham Stringer: The reason why I asked the question is that some of the submissions to the Committee, particularly from trade unions but others, have said that the Government are not maintaining their obligations under that Act. Maybe you could tell us if you have considered those obligations.

Lord de Mauley: Yes, certainly, and I consider that we are doing so.

Q109 Graham Stringer: As you put pressure on the budget at Kew—we have heard evidence from Professor Willis that there have been sensible changes made and loss of duplication, so that justifies some of the things you said earlier—are you aware, as you put pressure on for more self-funding, that this is going to have impacts on other activities at Kew? Do you believe that to be the case?

Lord de Mauley: What you are alluding to is that you cannot go on cutting for ever, and I would agree with that. That is why the triennial review process next year is extremely important. We have to get into the grain of the detail on this matter.

Q110 Graham Stringer: We heard evidence before that visitor numbers are down. In putting the prices up, you eventually hit the point where less people come. There has been an impact on the science. I suppose what I am asking is this. Are you aware that when you put

that pressure on you are changing the structure of Kew? As well as improving and creating some efficiencies, are you aware that you may have gone too far?

Lord de Mauley: We have not just regular but continuous dialogue with the management of Kew on all these matters. It is never easy to exert cost cutting on an organisation, and I have been through it a couple of times in the private sector, but, inevitably, in my experience, an organisation comes out of it healthier and better able to fulfil its core functions.

Graham Stringer: Thank you.

Q111 Stephen Mosley: During the earlier session the Kew management put forward very strongly that the restructuring was required, whether or not they faced these budget constraints. Do you agree with that?

Lord de Mauley: Yes, I do.

Q112 Stephen Mosley: Do you support the proposals that have been put forward in terms of restructuring? I am not talking about the costs elements but just, in general, in terms of restructuring and how they see the organisation moving forward.

Lord de Mauley: Yes, I most certainly do.

Q113 Stephen Mosley: Within their proposals, they are suggesting that job cuts are the only way of Kew efficiently managing its budget for the future. Do you support them in that as well?

Lord de Mauley: There are two processes going on in tandem here. One is the development of the new science strategy, and the other, of course, is a financial restructuring. The balancing act which the management has to carry out—and nobody else can do it but the management of Kew—is to make sure that they can achieve the new science strategy with the staffing that they have available to them. I have been very reassured, when I have gone through this in detail with the chief scientist and the director, that that is what they are going to do.

Q114 Stephen Mosley: Okay. So you have been through it with them. Let me tell you what I am trying to get to the bottom of and where I am going. If things go wrong in future, where will the buck stop? Will it be passed on to the management, or will you yourself or your ministerial colleagues say, “Yes, we have supported the team at Kew all the way along and, ultimately, the buck stops with us as Ministers rather than the local management”?

Lord de Mauley: In a way—I do this with great respect—that is, to some extent, to misunderstand the restructuring of the science. If you get the scientific restructuring right, and I am very confident that they are doing that, absolutely refining what the outputs are,

then I cannot see a likelihood of failure. Having said that, I have mentioned several times the triennial review. That is a process which will be gone through next year, which will look at these things very carefully indeed. If I may say so, the evidence taken by this Committee will be extremely useful in that process and certainly will be a part of it.

Q115 Stephen Mosley: The management here are getting a lot of flak. They are making very difficult decisions. I agree entirely with you that the national situation forces Departments to cut their cloth and then for you to pass it on, but they are the ones who are here taking the flak day in and day out. I want to make sure that they have the full protection and full backing of Ministers. I would have thought that you could say yes or no quite simply.

Lord de Mauley: They have the full backing of Ministers.

Stephen Mosley: Thank you.

Q116 Mr Heath: Minister, you and I have discussed on many occasions, not least in the context of *Chalara fraxinea*, the need to have a sufficient evidence base available to the Department in order to make informed decisions. Do you recognise that the collections here and the curating of those collections is a crucial infrastructure component of the evidence base to the Government?

Lord de Mauley: I would say that it is probably the core element of that, yes.

Q117 Mr Heath: That being the case, do you also accept the fact that a lot of the work that is done here is not the sort of research work which attracts grants from outside? It is maintenance of an invaluable resource rather than anything else. If the money does not come from Government, there is no other source, is there?

Lord de Mauley: Kew has proven that they are very good at finding other sources.

Q118 Mr Heath: But only by cross-subsidy, effectively, between the different functions.

Lord de Mauley: They have been very good at raising charitable funds. Their commercial work is improving. They have raised money from the Heritage Lottery Fund. So, no, I am not sure I entirely agree with that.

Q119 Mr Heath: So you would not accept my hypothesis, which I think you will have heard earlier, that there are, basically, three separate functions that happen here: first, the maintenance of this wonderful building and setting; secondly, the maintenance of the collections and their safe keeping; and, thirdly, the science which sits on top of that, which uses that resource. Really, the centre one of those should not necessarily be dependent on the success of the other two.

Lord de Mauley: I do agree with the three pillars, as you billed them. The facts of life are that, whether or not we like it, they are, to some extent, interdependent on each other. Because I am a DEFRA Minister, I see the science as being absolutely crucial, but I also see that the educational function which Kew performs depends entirely on that science. Of course, the buildings are here because of history. There is no getting away from that. They also have to be maintained.

Q120 Mr Heath: In a reduction to the absurd, we could keep a lot of those plants in a shed in Milton Keynes and it might be cheaper.

Lord de Mauley: Yes, but let's not, though.

Q121 Mr Heath: When we get to the triennial review, can I invite you—I do not know whether you will be involved at that stage—or can I invite the Department to look very carefully, as I say, at those three separate elements and to ensure that each of them has sustainable funding, not necessarily all directly from Government sources, because it seems to me that, otherwise, we run the risk of losing something that is of inestimable value, not just to the country and international science but to the work of the Department as well?

Lord de Mauley: I agree with you, and I can absolutely assure you that those will be integral to the triennial review.

Mr Heath: Thank you.

Chair: I was going to point out that David has clearly given up ambitions to take a seat in Milton Keynes.

Mr Heath: I have never had an ambition to take a seat in Milton Keynes.

Q122 Chair: Minister, in the earlier evidence I quoted from exchanges that took place on the Floor of the House, and towards the end of his evidence Mr Deverell was agreeing that some sort of stakeholder engagement is needed to help sustain a long-term strategy. Are you prepared to make sure that the Department puts its twopenneth into such a project, because it would be quite a long-term systematic study, looking very deeply at some of the subsets of the work that is done here, with some of those international dimensions, spilling over across Government Departments? We would need to involve your colleagues in DCMS in terms of the heritage buildings. There are the education elements and the forensic science element that I mentioned earlier. There are a widespread number of Government Departments that would need to be co-ordinated by you to contribute into such a review. Are you prepared to do that?

Lord de Mauley: Yes. I am very enthusiastic about that. That is exactly what the triennial review process is about.

Q123 Chair: In conclusion, it does seem to be a rather odd situation that we find ourselves in here today, the first time ever that a Select Committee has set out a call for evidence, and one of the underlying causes for our concerns was met the day before we meet. It seems a unique way of conducting Select Committee business. Perhaps we should do it more often with DEFRA.

Lord de Mauley: Would you like me to respond to that?

Chair: Indeed.

Lord de Mauley: With great deference to the Committee, it came out in the autumn statement, although perhaps not in the granular way in which we have more recently seen it.

Q124 Chair: Yes; we all understand how the Treasury works in this mysterious way. Lord de Mauley, thank you very much for your attendance this morning.

Lord de Mauley: Thank you, Chair and Committee.

Chair: The Committee will now conclude its session here. We will be listening to further views that are expressed by people in writing. Can I thank our hosts here today for looking after us and thank all the witnesses for their attendance? I thank the extremely well-behaved audience at the back. Thank you very much for your attendance.