House of Lords Reform and Expertise



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CaSE Policy Report

CaSE works to ensure that science and engineering are high on the political agenda and that the UK has: worldleading research and education; skilled and responsible

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Introduction

Science and engineering are vital to the health of the UK's economy and wider society. Members of the House of Lords must be able to access and deploy expertise in these areas as effectively as possible.

Reform of the House of Lords is firmly on the political agenda. This report considers what the potential implications of reform are on the current level of science and engineering expertise in the House of Lords and how we can ensure that, with or without reform, such expertise can be easily accessed and deployed.

The role of the House of Lords is to make laws, check and challenge the actions of the government, and provide a forum of independent expertise¹. It has been effective in this role; since the start of the 2010-2011 Parliamentary session the House of Lords has defeated the Government nearly fifty times². It is crucial that any proposed reforms of the House of Lords do not reduce its ability to perform its role. Function must be prioritised over form.

The current proposed reforms to the House of Lords will almost certainly reduce the number of experts it currently has, across all disciplines. The science and engineering community must therefore take this rare opportunity not only to consider what a reformed House of Lords should be able to do, but also reflect on its current use of expertise and ask if it could be improved.

The capacity of the Lords to effectively scrutinise and revise legislation does not come solely from its expert members. The Lords is able to draw on specialist advisers, committee staff, library staff, and the Parliamentary Office of Science and Technology. Outside Parliament, there are the national academies, learned societies, and other expert organisations. And across Whitehall, there are also the chief scientific advisers, other civil servants, and a plethora of expert committees advising government. Expertise in the UK is not in short supply, but now is the time to make sure it is used effectively.

Summary Recommendations

The proportion of the House of Lords which is appointed should be at least 30 per cent.

The Appointments Commission should become fully independent and should proactively seek new members, particularly in areas where expertise is found to be lacking.

The House of Lords and its members should seek to employ more staff with backgrounds in science and engineering, as opposed to predominantly from politics.

The resources of the House of Lords Science and Technology Committee should be increased – not reduced, as recently proposed.

The Parliamentary Office of Science and Technology should provide a comprehensive and compulsory induction programme aimed at new members, but also open to existing members, of both Houses.

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What Do We Mean By Expertise?

When you consider the contributions of peers like Martin Rees, John Krebs or Onora O'Neill, it's hard not to feel positive about the wisdom, insight and intelligence that they bring to Parliament and public life. And for those who want science to have a stronger voice in politics, it is tempting to support models of Lords reform which will preserve these aspects of the status quo.

However, it is important to step back and think more broadly about the role that a reformed Lords should occupy in the wider ecology of expert advice and scrutiny of policy. For peers who are scientists, engineers or academics by background, it is unusual for them to draw on their deep subject expertise in the daily business of Parliament: one thinks of Robert Winston speaking in a debate on human embryology as a rare example.



Beyond such opportunities, as Professor Martin Rees observed recently, "We're all depressingly 'lay' outside our specialisms." Most of the time, scientists operate in the Lords like the rest of their colleagues: on the basis of their experience, professional judgement, and common sense. And as peers such as Phil Willis and David Sainsbury illustrate well, a peer doesn't need to be formally trained as a scientist to be a very effective advocate for science, and for the more robust use of evidence, statistics and scientific methods in policymaking.

We also need a more honest assessment of the quality of expertise currently represented in the Lords. As Hugh Bochel, Professor of Public Policy at Lincoln University, argued in his evidence to the Joint Committee that in the current House of Lords, expertise is "patchy, may be deficient in a number of key policy areas, and as members are appointed for life, is in some cases a diminishing resource"³. There have of course been attempts to codify expertise in systematic ways — the sociologists Harry Collins and Robert Evans even went so far as to develop a 'periodic table of expertise'⁴. But anyone who has been involved in the construction, provision or reception of expert advice recognises that the challenge is rarely an epistemic one. There are cases where policymakers urgently need a scientific answer to an acute challenge: will volcanic ash bring down aeroplanes? Will this damaged nuclear power plant explode? But in most cases, the exercise of expertise is profoundly political.

Most of the time, as Sheila Jasanoff, Professor of Science and Technology Studies at Harvard Kennedy School, has argued, when experts are brought to bear on decisionmaking, "what they are doing is not 'science' in any ordinary sense, but a hybrid activity that combines elements of scientific evidence with large doses of social and political judgement⁵."

If we think about the science advisory system as a whole, a focus on the credentials of individual peers, whether elected or appointed, needs to be balanced by equal attention to the mix of skills, structures and staff that are essential for high quality scientific advice. There also needs to be a more explicit recognition of the contribution that different disciplines and perspectives make: including the social sciences, arts and humanities. We need to recognise the importance of politics in science, in shaping what counts as evidence and authority, as much as the importance of science in politics.

If we were moving towards a fully appointed Lords based on 'constituencies of expertise', then we would have the incentive, time and space to think seriously about these questions, as part of a wider debate about the function as well as the form of any revised upper house. But in the current debate, with attention focusing on questions of elected or non-elected, referendum or no referendum, it's much harder to carve out any discussion of these issues. And in my view, it's this more serious reflection on the relationship between expertise, politics and policy that the scientific community should be arguing for right now, rather than some simple defence of the status quo.

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The Proposed Reforms

There are over 800 members of the House of Lords at present⁶. The majority of members enter the house by direct appointment by the Prime Minister as a party political or independent peer, or by appointment by the House of Lords Appointment Commission to the cross-benches. The remaining members are either hereditary peers or one of the Lords Spiritual.

Why Reform?

In the run-up to the 2010 election there was cross party consensus that the House of Lords needs to be reformed. Reform featured in the manifestos of all three major parties:

Labour: 'We will ensure that the hereditary principle is removed from the House of Lords. Further democratic reform to create a fully elected Second Chamber will then be achieved in stages. At the end of the next Parliament one third of the House of Lords will be elected; a further one third of members will be elected at the general election after that. Until the final stage, the representation of all groups should be maintained in equal proportions to now. We will consult widely on these proposals, and on an open-list proportional representation electoral system for the Second Chamber, before putting them to the people in a referendum.'⁷

Conservatives: 'We will work to build a consensus for a mainly-elected second chamber to replace the current House of Lords, recognising that an efficient and effective second chamber should play an important role in our democracy and requires both legitimacy and public confidence.'⁸

Liberal Democrats: 'We will replace the House of Lords with a fully-elected second chamber with considerably fewer members than the current House.'⁹

The resultant **Coalition Government** also stated a commitment to reform: 'We agree to establish a committee to bring forward proposals for a wholly or mainly elected upper chamber on the basis of proportional representation. The committee will come forward with a draft motions by December 2010. It is likely that this bill will advocate single long terms of office. It is also likely there will be a grandfathering system for current Peers.'¹⁰

Draft House of Lords Reform Bill

Later than originally planned, the Draft House of Lords Reform Bill was published in May 2011 and proposed that a reformed House should¹¹:

- Be reduced in size to 300 members
- Elect 80 per cent of members using the Single Transferable Vote
- Independently appoint 20 per cent of members to sit as cross-benchers
- Continue the presence of the Bishops of the Church of England but reduce their number from 26 to 12

Joint Committee on House of Lords Reform

Following its publication, the draft bill was considered by a Joint Committee of both Houses made up of 13 peers and 13 MPs. The Joint Committee heard evidence from a wide variety of stakeholders including UCL's Constitution Unit, the Archbishop of Canterbury, Unlock Democracy, and the most senior clerks from the Lords and the Commons.

The report from the Joint Committee was published in April 2012 and supported many of the proposals in the Draft Bill¹². However, in contrast to the Draft Bill, the Joint Committee recommended that a reformed House should be reduced in size to 450, rather than 300, and to submit the decision to elect members of the House of Lords to a referendum.

Alternative Report

A lack of consensus from within the Joint Committee it divided 15 times on major issues — resulted in the publication of an alternative report. The authors were concerned primarily that, because the Joint Committee was restricted to dealing with subjects covered by the Draft Bill and White Paper, the challenge to the primacy of the Commons posed by an elected House of Lords, was not dealt with sufficiently. The report proposes a Constitutional Committee, to examine all the issues involved in further reform of the House of Lords¹³.

What next?

The Coalition Government's commitment to reform continued with a place in the Queen's Speech — "A Bill will be brought forward to reform the composition of the House of Lords". However, getting a reform bill through both Houses won't be easy. Conservative MPs (and some Labour) are expected to mount a rebellion over the passage of the Bill¹⁴. However, despite this opposition, House of Lords reform is firmly on the political agenda and is more likely to happen than ever before — whether in this Parliament or the next.

The International Context

| I | | |
|----------------|--|---|
| Name | Size | Composition |
| Senate | 103 | Members are appointed by the Governer General on the recommendation of the Prime Minister, Members continue to serve until they are 75 years old |
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| Senate | 100 | Members are directly elected and serve 6 year terms. |
| Bundesrat | 69 | Bundesrat members are delegated from the state governments. The Bundesrat does |
| | | not have a fixed term. Members' terms depend on that of the government of the state they represent. |
| Sénat | 347 | Members are elected indirectly by popularly chosen departmental electoral colleges |
| | | and serve 6 year terms. |
| Senate | 238 | Members are indirectly elected by legislative assemblies of the states and union |
| | | territories. The constitution provides for 12 'distinguished' members to be appointed by the president from the fields of literature, art, science and social science, nominated |
| | | by the Head of State. |
| Senate | 76 | Members are directly elected and serve 6 year terms. |
| Senado Federal | 81 | Members are directly elected by block vote and serve 8 year terms. |
| | Name Senate Senate Bundesrat Sénat Senate Senate Senate | NameSizeSenate103Senate100Bundesrat69Sénat347Senate238Senate76Senado Federal81 |

How do other countries fill their second chambers?

The House of Lords is one of only two wholly unelected second chambers found in major democracies — the other is Canada. However, not all the other second chambers are fully elected. It is common for such chambers to include at least some members are not elected, or who are elected indirectly¹⁵.

Scientific advice to the legislature

There is great variation between countries in how scientific and engineering advice is provided to the legislature which is, in part, explained by the variations in power of the legislature as compared with the executive¹⁶.

United States of America

In the US, members of Congress and its various committees benefit from three congressional support agencies. One of these — the Congressional Research Service — has 700 employees, of which 10 per cent conduct research and analysis on science and technology policy issues. One third of these researchers have PhDs in science, engineering or health¹⁷. At present there are 11 members of the Senate who are scientists and engineers (11 per cent). In addition to the Congressional Research Service, Congressional hearings frequently hear from experts from the US and abroad.

France

Unlike in other countries, much of the scientific advisory structure in France is now enshrined in law. Scientific

Source: PARLINE database on national parliaments

bodies are now official public structures and are becoming increasingly numerous and specialised. French scientific advice can be seen as a process with three steps — a request, the work of the scientific advisory bodies, and then their responses.

Requests for advice can come from the Executive, the Legislature, the Senate or regional, general and municipal councils. The subsequent advice can then take the form of a report, an opinion (concerning a debated question), a recommendation, or a combination of all of them in a single report¹⁸.

Sweden — What happens when there is no second chamber?

In its unicameral system Sweden incorporates expertise into the policy process in two ways — the committee system and the referral system. Most major legislation and major political decisions are prepared within the committee system. Committees consist of representatives from universities or other research organisations (often connected to committees as experts rather than members), scientific experts and public agencies. Committees can commission research or investigations in specific issues¹⁹ which are then published in specific reports. The distribution of these report to those that are presumed to be affected guarantees a relatively open formulation process.

The View from the Lords

A study by *Research Fortnight* has suggests that expert members of the House of Lords are unlikely to stand for election. Of the 37 peers (17 cross-bench peers and 10 from political parties) surveyed only 6 said they would stand for election. The peers surveyed all have backgrounds in academia, including the sciences, arts, and humanities.

When it came to the composition of a reformed house, or even if reform should take place, the peers were split. Of the peers surveyed, 5 backed a fully elected house, 15 said it should be partly elected, 15 said it should remain unelected, and 2 were not clear on their stance.

A fully elected House

Some peers expressed concern that a fully elected Upper House would become a carbon copy of the Commons with the "danger that you'll end up with people who didn't achieve what they originally set out to do". One peer said, "The problem in general with politics at the moment is that increasingly, people going into elected politics in democracies have done fewer, if any, jobs in the outside world. The advantage of a house like the House of Lords is that it is full of people who have expertise in a wide range of areas."

On the presence of expertise in a fully elected House one peer said, "It's clear to me that if there were no professional researchers, or scientists or medics in the House, that expertise would have to be provided from outside the chamber into committees that were scrutinising bills. [And to be honest] I think that's a more effective way of doing it because then you get really superb up-to-date experts red hot in their fields bringing their current expertise to bear on Bills."

However, one peer felt that the main difference of a fully elected House would be in the quality of the select committees, where it would be difficult to rule out bias in the selection of outside experts, "Although there would be the excellent House of Lords clerks, I think they [the select committees] would change in character completely. [...] What is good about the select committees at the moment is that real experts come in from different angles."

A partly elected House

Those peers that supported a wholly or partly elected House felt that expertise could come from elsewhere, "there may be a reduction in the quality of debate but you might get better up to date advice". Suggestions to provide access to expertise included a much larger base of appointments alongside elected members to provide a wider breadth of expertise, and an expanded committee structure which could include experts from outside the House.

One peer suggested that a partly elected House could be one way to actually increase the level of expertise, "I think if it were recognised that 20% of the House would be of no political persuasion it would enable us to go on co-opting people like that [cross-benchers with expertise] into the House of Lords." Another peer agreed suggesting that there should be room in the House of Lords for those who aren't interested in standing for election, "We have on the cross-benches quite a number of people who never in their lives would think of standing for election and yet do contribute very considerably to the business of the House."



An unelected House

Of those peers who that felt that the House should remain completely unchanged (in its absence of elected members), the majority felt that the House could nonetheless benefit from some changes. One peer said, "Of course it needs to be reformed, we need to have the appointments commission as statutory and there need to be a path for peers to resign." Several peers voiced support for the recent Steele Bill which proposed mechanisms by which peers could leave or be asked to leave the House, including failure to attend the House.

The Appointments Commission was raised by several peers as another target for reform, "I have no objection whatsoever to the present appointments system, provided the Appointments Commission became statutory and was scrutinised carefully in an ongoing way to make sure that it doesn't have any particular political bias."

CaSE would like to thank Research Fortnight, in particular Laura Hood, for sharing the results of their survey with us.

Impact of Expertise: Case Studies

Human Fertilisation and Embryology Bill, 2008 — Admixed Embryos

A review of the 1990 Human and Fertilisation Embryology Act was announced in 2004 as a result of significant advances in areas such as reproductive and stem cell research. It took four years for the bill to become law and during this time the expertise and experience found in the House of Lords played an important role in scrutinising and amending the Bill. One part of the new Bill allowed for the creation and use of interspecies embryos, for research purposes, within a tightly regulated framework, overseen by the Human Fertilisation and Embryology Authority.

The ability to undertake such work in the UK enables the development of techniques to overcome the shortage of human eggs available for use in medical research and the production of stem cells, e.g. for research into the genetic basis of disease²⁰. The UK is world leader in human reproductive technologies and stem cell research — in 2007 Sir Martin Evans FRS won the Nobel Prize for Medicine for his work in this area.

The appreciation of the scientific and ethical issues held by members of the House of Lords, as well as their links to the wider medical research community, was of great importance. Members' amendments on issues such as licensing and regulation ensured that the UK could continue its effectively regulated world-leading work in this field.

Health and Social Care Bill, 2011 — A Duty to Promote Research

One of the concerns held by the research community about the recent Health and Social Care Bill was the need for a consistent message affirming the place of research at the heart of the NHS. Duties on the Secretary of State, NHS Commissioning Board, and Clinical Commissioning Groups to promote research had not existed before and were initially welcomed. However, the wording used — "have regard to the need to promote [research]" — was felt by many to be unhelpfully vague and in need of clarification²¹.

Peers felt there was a need to strengthen these duties — to both promote research and use evidence obtained from research — in the health service when exercising its functions. This received support from members on all sides of the House, including cross-benchers and front-benchers. The amendment that resulted — a change to "must promote [research]" — ensures that health research is a core role of the NHS²². As Lord Willis, Chair of the Association of Medical Research Charities, commented, "The result of this, if we make it work, will be the only research-led health service in the world."²³

House of Lords Science and Technology Committee Report on Nuclear Research and Development Capabilities, 2011 — *Shaping the Government Agenda*

The House of Lords Science and Technology Committee has a record of influencing and scrutinising Government on a wide variety of issues from pandemic influenza to personal internet security. In November 2011, the House of Lords Science and Technology Committee published a report on the UK's Nuclear Research and Development (R&D) Capabilities. The scope of the Committee's inquiry was not to take a position for or against nuclear power, but rather to examine whether the Government was doing enough to maintain and develop UK nuclear research and development capabilities.

The Committee's report highlighted an extraordinary discrepancy between the views of some government officials and independent experts on this issue and concluded that there is a need for fundamental change from Government in its approach to nuclear R&D²⁴. As a result of this report a number of the Committee's recommendations have been acted upon, showing that the committee successfully put the issue on the political agenda. For instance, the Government is going to publish a long-term strategy on the role of nuclear energy to 2050 and beyond, as well as a UK nuclear roadmap. In addition, the Government — as recommended by the Committee — will establish an Advisory Board to support the implementation of the Roadmap to provide assistance, knowledge and expertise on nuclear R&D²⁵.

Conclusions

The proportion of the House of Lords which is appointed should be increased to at least 30 per cent.

The Appointments Commission was established in 2000 and since then has appointed nearly 60 members²⁶ to the cross-benches. Many of the members with science and engineering expertise have entered the House this way including Lord Rees, Lord Krebs, and Baroness Finlay.

Increasing the proportion of appointed members in the Upper House will ensure it represents a wider breadth of expertise, includes independent voices, and decreases the influence of whips in the House who would direct the 200 elected, or 'political' members.

The vast majority of appointed members should enter the House through the Appointments Commission as opposed to through an appointment from the Prime Minister. The Appointments Commission should continue to recommend nominees who are and intend to remain independent of any political party.



The Appointments Commission should become fully independent and should proactively seek new members, particularly in areas in which expertise is found to be lacking.

The Appointments Commission consists of a Chair (an independent cross-bencher), three non-party political members appointed through open competition, and one member each from the three main political parties. The shift to a fully non-partisan Commission would reinforce its commitment to prioritising expertise over

politics in both its own composition and in the members it appoints.

There are still worrying gaps in the expertise found in the House of Lords, despite the Appointment Commission's current emphasis on expertise in its selection criteria. For instance, research undertaken by UCL's Constitution Unit identified a lack of peers with expertise in environmental protection.

Expertise in such areas, which are internationally recognised as priority policy areas, must be proactively sought. The Appointment Commission should liaise with the National Academies and Learned Societies in identifying suitable candidates and inviting them to apply.

■ The House of Lords and its members should seek to employ more staff with backgrounds in science and engineering, as opposed to predominantly from politics.

Those members of the House of Lords who do not have science and engineering expertise should be able to easily draw on knowledge from those that do — Select Committee, Library, and POST staff are a valuable resource. However, members would benefit from a higher number of staff with science and engineering expertise working across both Parliament and Government, currently these areas are dominated by people from the political classes without such expertise.

For instance, less than 1 per cent of around 5,000 senior civil servants have a science background and just 2.8 per cent class themselves as engineers²⁷. This occurs at all levels — only two of the 42 permanent secretaries that lead the UK's Civil Service have degrees in science and engineering²⁸.

The Coalition Government's commitment to evidencebased policy²⁹ must be underpinned by a commitment to increasing the number of staff with science and engineering backgrounds. The Government Science and Engineering (GSE) community project³⁰ should be given increased support enabling its members to connect to the wider science and engineering community.

Further recommendations overleaf.

Conclusions

The resources of the House of Lords Science and Technology Committee should be increased – not reduced, as recently proposed.

The House of Lords Science and Technology Committee has a worldwide reputation for producing timely and influential reports on a wide variety of issues and we should be looking to increase its output. In the shift to a partly or fully elected House of Lords the work of select committees becomes even more important and will be one way in which to compensate for the absence of expert peers.

The recent recommendation from the Liaison Committee to reduce the resources available to the Science and Technology Committee, in order to free up resources for new committee activity, is shortsighted. The House of Lords currently has more members than ever before with 120 new peers entering the House since the last election. A reduction in size of the Upper House by just ten members³¹ — the average cost of each member is thought to be £21,000³² — would reduce costs sufficiently to restore resources to the Science and Technology Committee.

■ The Parliamentary Office of Science and Technology should provide a comprehensive and compulsory induction programme aimed at new members, but open to existing members, of both Houses.

Following the 2010 election 233 new MPs entered Parliament. For the first time, POST organised an induction event called 'Science, Uncertainty, Evidence and Policy'. The event received 25 expressions of interest, but on the day just under half that number attended — approximately 1.7 per cent of the total number of MPs.

A new POST project is looking at how members of the House of Lords access and use information about science and technology issues — with a view to providing a similar induction for its new members. A compulsory induction programme would embed an understanding of how to access and deploy science and engineering expertise in both Houses.

References

- 1 'Role and work of the House of Lords' UK Parliament website
- 2 'Government defeats in the House of Lords' UCL Constitution Unit website
- 3 'Report of the Joint Committee on the Draft House of Lords Reform Bill' April 2012
- 4. 'Rethinking Expertise', H. Collins & R. Evans 2007
- 'The Fifth Branch: Science Advisers as Policymakers' S. Jasanoff 1990
 'United Kingdom House of Lords' PARLINE database on national parliaments: 30 January 2012
- 6 'The Labour Party Manifesto Page' 9:3 2010
- 8 'The Conservative Party Manifesto' Page 67 2010
- 9 'Liberal Democrat Manifesto' Page 88 2010
- 10 'Coalition Government Manifesto' Page 27 2010
- 11 'House of Lords Reform Draft Bill' HM Government May 2011
- 12 'Joint Committee on the Draft House of Lords Reform Bill First Report' UK Parliament website 23 April 2012
- 13 'Alternative Report on House of Lords Reform' House of Lords Reform website April 2012
- 14 'Lords reform makes it into Queen's speech but doubts remain' Guardian 9 May 2012
- 15 'Judging the white paper against international practice of
- bicameralism' M. Russell End of the Peer Show 2011
- 16 'Science and Governance: describing and typifying the scientific advice structure in the policy making process a multi-national study' An ESTO Project Report Feb 2001
- 17 Congressional Research Service 'Science and Technology Policymaking: A primer' Deborah D. Stine May 27 2009
- 18 'Typifying Scientific Advisory Structures and Scientific Advice Production

- Methodologies (TSAS) Final Report' S. Glynn, P. Cunningham and K. Flanagan Dec 2003
- 19 'Typifying Scientific Advisory Structures and Scientific Advice Production Metholodogies - The Cases of Denmark, Finland, and Sweden' B. Persson Working paper 2003-26 19 May 2003
- 20 'Briefing on the second reading of the Human Fertilisation and Embryology Bill' Wellcome Trust 19 Nov 2007
- 21 'Peers call for commitments to research' AMRC Blog 25 Jan 2012
- 22 'Research now right at the heart of the NHS' AMRC Blog 2 Feb 2012
- 23 Hansard Column 353 Lord Willis of Knaresborough 8 Feb 2012
- 24 'Third Report Nuclear Research and Development Capabilities' House of Lords Science and Technology Committee 15 Nov 2011
- 25 'Government response to the House of Lords Science and Technology Select Committee Report: Nuclear Research and Development Capabilities' Feb 2012
- 26 House of Lords Appointments Commission 'HOLAC Appointments' 20 Dec 2011
- 27 'Whitehall lacks scientific know-how, claims union' Research Fortnight 27 March 2012
- 28 'Only 5% of top civil servants have degree level science education' Reputability blog 4 Jan 2011
- 29 'Government Response to the House of Lords Science & Technology Select Committee Report: Setting Priorities for Publicly Funded Research' July 2010 30 Government Office for Science 'Government Science & Engineering (GSE) 31 Hansard Question Asked by Lord Foules of Cumnock 26 March 2012 32 'House of Lords expenses: £21,000 a year per Lord' Guardian Datablog: 14 May 2012
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