

Royal Society Speech
Nick Clegg
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It's a privilege to find myself in the programme for the Royal Society's 350th anniversary. Nearly 800 individual events, a new policy centre, a festival, a book, you've taken over Radio 4...

In a few weeks you'll even be all over Britain's stamps.

The contribution the Royal Society has made, and continues to make, is impossible to quantify.

For centuries so many of the great strides in human understanding have been taken by your Fellows.

I would list them but simply naming the Nobel laureates would take long enough.

So let me just say this: there is not a single other body of people that has been so influential in shaping the past, and yet remains so central to shaping the future.

Thank you to Martin for inviting me to speak today, and to John for chairing.

That future is what I would like to focus on.

For a generation our economy has been built on a set of assumptions about the behaviour of markets and the infallibility of financial services.

The economic crisis has rendered those assumptions obsolete.

The challenge that faces us is the reinvention of our economy on new principles.

Science, maths, engineering and technology must be at the heart of that project.

We need to rediscover our talent for making things as well as placing bets on the international money markets.

We must rebalance our economy so that manufacturing and research are as valued as finance and consumer services.

In short we need a kind of paradigm shift in the way we rebuild our battered economy.

And I would like to spell out the Liberal Democrat's commitment to that change to you today.

Looking specifically at funding, the way we allocate funds, science education, the independence of scientific advice to government, and reform of libel law.

My late grandfather would have been thrilled to see me here addressing you.

An independent, free thinking man, he was for many years the editor of the British Medical Journal.

He always spoke with great passion about the value of independent scientific endeavour.

Personally I regret very much that I did not pursue science beyond my O levels.

I enjoyed chemistry particularly, although perhaps more for the schoolboy pyrotechnics in the laboratory than anything else.

I remember, in the lesson before my final exam, my wild-eyed chemistry teacher saying to all of us in the class:

"I've taught you everything I know. And yet you still know nothing."

With that kind of guidance perhaps it's no wonder I ended up specialising in languages and social anthropology instead.

But as the leader of a party rooted in the traditions of the Enlightenment, I like to think there is a spirit that we share.

Liberalism as a political creed flows directly from the world-view first elevated during the Enlightenment.

That man is a rational creature capable of change through knowledge.

That observation and experiment are the building blocks of progress.

That while dogma and myth entrench illegitimate authority, scientific inquiry brings truth and with it the possibility of freedom.

Liberals therefore naturally understand that a society's evolution is determined by its inventors.

It was new methods in medicine that tamed cholera.

The printing press that accelerated literacy.

The internet that provides previously unimaginable access to information for millions of people.

New discoveries will provide the answers to the challenges of the future too.

Climate change, new pandemics, natural disasters, warfare that is biological, chemical, digital.

At this point let me congratulate the Royal Society for your ongoing work on scientific diplomacy.

These problems are global and their solutions will need to be too.

That is also familiar ground for liberals.

Let me reiterate - the immediate challenge is this: rebuilding our economy.

And not just rebuilding it, but redesigning it too.

Since the near collapse of the world's banking system, the ground beneath us has shifted.

For a generation our approach to growth in the economy has been guided by two principles, first propagated by the Thatcher and Major governments, then Blair and now Brown:

That growth in the economy can be sustained by self-correcting markets.

That the best vehicle for that growth is the financial sector.

Both have been proved false.

And we see more clearly than ever the folly in that approach.

Bewitched by tax receipts from the City, successive governments stripped away regulation...

Allowing the expansion of ever more complex, high-risk activity in our overleveraged banks.

Eventually those banks became too big to fail, and when they got into trouble the effects were felt across the whole economy.

Now, as we make our way through the longest recession on record, we see our true frailty.

Other sectors, the other possible sources of growth, have suffered years of criminal neglect.

As we try to return our economy to health, we must not commit the same mistakes. We must reinvent our approach to growth.

That is an enormous challenge, but there are lessons we can learn.

One: never again can a single sector become a vested interest which trumps all others.

Two: where an industry relies on public money and provides a function akin to a utility that industry must be regulated in a way that protects the public interest.

Three: all bubbles will eventually burst; speculation is no substitute for human capital.

Learning those lessons will create conditions for growth that is more sustainable, more socially responsible, and protected from vested interests.

Despite the scale of the transformation required, I am optimistic.

We already have the basic materials for that project: the intellectual capital within the fields you represent.

Our research communities are among the most prolific on the planet:

1% of the world's population, responsible for 8% of the world's publications, 12% of world citations, and 14% of the most highly cited papers.

In a class of our own in stem cell research, synthetic biology, bioengineering, climate science, food production, the list goes on.

And when we do convert that knowledge into production the gains are impressive.

There are many excellent examples of university research being spun out commercially.

But despite those examples it still does not happen enough.

In too many cases we still do not make the transition from lab bench to marketplace, from publication to patent or from patent to profit.

Knowledge-intensive industries do not play the part in our economy that they could.

And it is making us less prosperous as a result.

Plastic electronics is a prime example:

A technology capable of applications from a new generation of photovoltaics to light emitting wallpaper.

Science perfected in the UK, but currently manufactured in Germany, with IP registered in the US.

The problem is political.

I would not want to underplay the immense personal contributions of individual Ministers, specifically Lord Sainsbury and Lord Drayson.

But by depending almost entirely on our financial services for growth, the Labour Government has failed to fully recognise the commercial potential in our research communities.

It is true that they have increased investment in science, but it is also true that they were beginning from a very low base.

While they were right to raise the target for the money spent on R&D to 2.5% of GDP, that is still low compared to European and American targets, and puts us well behind countries like Japan and Korea.

In reality the UK has been spending around 1.8% of GDP on R&D; the only G7 country that spends less is Italy.

And as we saw last month in the Chancellor's Pre-Budget Report, faced with the need to make cuts the Government has immediately launched a £600m raid on higher education research.

The Government's tick box approach to impact assessment has been damaging too. It is very worrying that the Research Excellence Framework, currently being piloted, downgrades pure research, when we all know the utility of research is so hard to predict. This issue also needs to be addressed in the allocation of research council grants to individual projects.

Throughout history the applications of profoundly important research could not have been anticipated at the outset.

Any application procedure that would have refused funding for Alexander Fleming cannot be sound.

I also feel strongly that the Government's record has been undermined by their failure to safeguard scientific freedom.

I will address the need to reform English libel laws to protect academic debate in more detail later.

But let me say here that Labour's attitude towards the independence of scientific advice has been a disgrace.

Everyone will be familiar with the details of Professor Nutt's dismissal so I will not go into them now.

However I will say this: it betrayed this government's intolerance of those who challenge them.

And it showed flagrant disregard for the need to insulate evidence-based policy making from party politics.

Ministers are of course entitled to reject expert advice.

But they must give their reasons when they do.

They must not seek to gag their advisers; nor should they shoot the messenger.

My party opposed the decision, and it was enormously disappointing to see the Conservatives cheering the Home Secretary from the sidelines.

If not entirely unsurprising.

The Conservative science spokesman last week insisted that the principle of independent scientific advice is crucial.

In the next breath he argued Ministers must be able to dismiss advisers even if they just don't like them.

I take a different approach.

As does my party; I know Evan Harris, Phil Willis, Margaret Sharp and Dick Taverne will have worked with many people in this room.

As I have said, I believe the fields you represent must be central to a new economy. But in order for that to happen you will need a renewed commitment from government. And so equally from those who seek to govern.

I would like to outline five guarantees from the Liberal Democrats to our science communities today.

One: I will be honest with you about our plans for public spending.

Two: I believe funding should be allocated according to broad priorities, not distorted by narrow impact assessments.

Three: we are committed to reforms in our education system which will massively improve scientific literacy.

Four: I will continue to uphold the principle of policy based on independent evidence.

Five: I support immediate reform of English libel laws to restore freedom of expression to scientific debate.

First, funding.

The Liberal Democrats do not believe it is sensible to begin cutting public spending now, in the teeth of this recession.

We are not prepared to take that risk with our economic recovery.

But I have to be straight with you: one of the consequences of the banking crisis and the recession is that the country now has a budget deficit of £170bn a year; that's 12-13% of GDP.

We all know that is not sustainable and a very difficult fiscal contraction will have to occur in the coming years.

Much of the burden will fall on public spending

As a matter of principle Vince Cable and I have ruled out guaranteeing spending commitments to any individual Whitehall departments – as opposed to our commitments to specific policy outcomes - until we are clearer about the scale of the reductions needed. It is simply not responsible, nor is it honest.

However, I do want to make clear to you that the ambitions for science I have outlined will be at the forefront of our thinking as we continue to grapple with the black hole in the nation's finances.

Let me also say that I recognize that once funds are allocated to research councils, there has to be confidence that they won't be snatched away again...

Undermining the long-term planning and short-term effectiveness of research programmes.

So as allocations are made to research budgets in the coming years they must always be honoured and not bought retrospectively into question.

While there will have to be major cuts in Government spending we have identified two specific policy areas in which additional resources are required.

One is delivering smaller class sizes and more one to one tuition in schools.

The other is in the development of low carbon infrastructure.

Together these spending priorities help safeguard social mobility for today's children, create jobs for those without work, and support science and research through investment in cutting edge infrastructure.

We are also identifying ways to increase private investment in infrastructure...

Including a National Infrastructure Bank to bring together public and private funds.

And we are looking at innovative ways of raising capital for small and medium sized businesses – the vehicles by which research in our universities is so often spun out into the market.

Including, for example, regional stock exchanges.

Two, allocating funding.

We respect the Haldane principle that Government should not micromanage the funding of grant applications.

But I believe that where public money is concerned Government is entitled to take strategic decisions based on key social and economic priorities.

For example, a Liberal Democrat government would not invest in the development of a like for like replacement of the Trident nuclear missile system.

We no longer need it, we can no longer afford it, and so I would not expect taxpayers to pay for the research to develop it.

And more specifically I can also confirm to you today Liberal Democrats believe we must look again at arbitrary impact assessment which runs the risk of allocating funding in a subjective and capricious manner...

Which in long run risks doing considerable harm to the research base of the UK

Three, education.

I think it's impossible to overstate the importance of early years schooling when it comes to later take up in science, maths, technology and engineering.

Evidence shows that many of the patterns that repeat across a child's life take root at this stage.

This is the window for cultivating children's natural curiosity and self-confidence.

I am committed to improving the quality of maths and science education for young children by reducing class sizes and increasing one to one tuition in schools.

As children get older, I want all Key Stage 4 pupils to be offered access to three separate sciences.

All taught by graduates with the appropriate science specialism.

And we need to redouble the drive to draw more girls and young women into science.

It cannot be right that only a fifth of young physicists are female.

Improving science education in the early years allows us to head off the stereotypes that later embed and deter women from these careers.

We also have plans to target funding to the most disadvantaged children.

We know that bright but poor children are routinely overtaken by their less bright peers while they are still very young.

It is crucial that children from the most difficult backgrounds, whose parents may spend less time on their education in the home, are afforded the opportunity to excel in difficult subjects.

Finally, on the lamentable issue of maths and science departments closing in our higher education institutions...

Creating a generation of scientifically literate young people at school will mean more and more going to university demanding science departments be kept open.

We should also look at how funds are distributed to individual higher education institutions to make sure maths, engineering and science courses are funded fairly in order to prevent their closure.

Four: evidence based policy.

I am interested in what works.

It's why we are prioritising investment in early years education because we know that supports the genesis of a better education later on.

It's why I support community justice and rehabilitation programmes for young offenders...

Rather than default prison sentences.

It's why our energy policies recognise the scientific opinion which tells us that preventing runaway climate change will require capping the global temperature increase to 1.7 degrees rather than two.

I also understand that best evidence is independent.

The Liberal Democrats support the New Principles for the Treatment of Independent Scientific Advice, as submitted by Martin Rees to the Prime Minister.

Which we believe must become a new code of practice for Ministers, and be implemented undiluted and without delay.

I would add that I recognize that the treatment of evidence is not uncomplicated. Politicians by nature want certainty, not least about the future, which science rarely provides. Scientific language is always filled with caveats and qualifications. Politicians must resist the temptation to present evidence in ways that are crude and self-serving.

We must look at the way that responsibility operates in the media too. Our capacity to communicate the complexity of evidence when describing policy decisions depends on the media's readiness to convey nuance. It is an important debate, one I believe we need to have. Scientists are not soothsayers and we only inhibit public debate by presenting them as though they are.

Finally, libel.

I am deeply concerned about the stifling effect English libel laws are having on scientific debate.

The freedom to evaluate critically the work of others is the essence of quality research. Of course people have the right to protect their reputations from damaging and false statements made irresponsibly or with malice. But scientists must be allowed to question claims fearlessly, especially those that relate to medical care, environmental damage and public safety, if we are to protect ourselves against dubious research practices, phoney treatments and vested corporate interests.

English libel law as it stands is obstructing that process and threatens the public good as a result.

The prospect of a costly, protracted legal battle hangs over journalists, editors and academics seeking to ask basic questions about the evidence for practices they believe may put people at serious risk.

A study by Oxford University suggests that libel cases are on average 140 times more expensive in England than in mainland Europe.

When the Guardian and Ben Goldacre defended statements he had made about a man in South Africa selling vitamin pills as a treatment for HIV the cost was over £150,000. Even though they won.

The fact that few cases come to court is actually an indication of the chilling effect; journal editors err on the side of caution rather than take the risk of a potentially ruinous libel action.

Our libel law and practice have turned a country once famed for its traditions of freedom and liberty into a legal farce where people and corporations with money can impose silence on others at will.

I believe in raucous freedom of speech, not gagging orders in our courts.

Libel tourism is making a mockery of British justice, with foreign plaintiffs able to bring cases against foreign defendants when the publications in question may have sold just a handful of copies in England.

The draconian and unbalanced state of our libel law has prompted American state legislators to pass laws protecting their citizens from our courts.

That is a sad commentary on the weaker protection given to free speech here than in the United States.

My grandfather passionately believed that scientific debate is at its most robust, most fruitful, when it is conducted in public.

I'm delighted to see that passion being kept alive by the current editor of the BMJ, Fiona Godlee, who has been one of the most vocal proponents for reform...

In the age of the internet, when academics have even less control over how and where their views are reported, they must be confident that freedom of expression will be enjoyed in practice.

The Government is dithering with yet another working group when we need action.

It is imperative we reform English libel laws without delay...

Particularly reform of Conditional Fee Arrangements, strengthening the public interest defence, the restriction of libel tourism and new rules to address information available on the internet.

Honesty on funding; an end to arbitrary impact assessment; better science education; evidence based policy-making; libel reform.

Five guarantees which I hope reflect the Liberal Democrat commitment to science, maths, engineering and technology.

And our recognition of your immense importance to this country's future.

As I said, building the new economy will be no easy task.

But as I have also already said, there is no progress unless you are behind it.

Thank you.