

# Notes and Records

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## ANNIVERSARY DINNER 1972

*Speech by the Rt Hon. Margaret Thatcher, M.P., Secretary of State  
for Education and Science, at the Anniversary Dinner,  
The Dorchester, 30 November 1972*

IT is, Mr President, a special honour to be asked to propose the toast of this ancient and honourable Society, dignified alike by the loftiness of its objectives, namely to promote, by the authority of experiments, the science of natural things and of useful arts, to the glory of God the Creator and the advantage of the human race. For over 300 years the Royal Society has been both a symbol and a mainstay of the spirit of free scientific enquiry and an active partnership has flourished through the centuries between the Society and the State.

True, Mr President, things have sometimes been very different in the past from what they are now. For example, in the middle of the nineteenth century, the Society viewed with distaste the prospect of receiving a grant of money. The Government of the day, in the person of Lord John Russell, the Prime Minister, approached the President of the Royal Society in October 1849 with an offer to allocate a given annual sum of money of £1000 for scientific research. Lord Rosse, the President, admitted in his Presidential Address his fear that the grant would be abused and that the Society's previous unhappy experience, in equitably dispensing the small sums at its disposal, would simply be repeated on a larger scale. I note that the Society is happier in the pursuit of truth than in the practice of equity. And so the Society set up a committee to decide whether it should receive the money and then, having decided that it would, set up a further committee to review each application. The Secretary of that committee, Sir Edward Sabine, claimed that, should a researcher's

experiment fail altogether, the responsibility rested with those who sanctioned the expenditure and not with the the person who proposed it. It occurred to me, Mr President, that this might be a useful precedent for the Research Councils when dealing with research commissioned by departments. Later, in 1855, when Palmerston formed his Government, the Financial Secretary to the Treasury informed the Society that the grant would stop at the end of the current year but, by this time, things had changed and the Royal Society had overcome its natural distaste and the Duke of Argyll wrote to the Prime Minister about the withdrawal of the grant. Such was the power of the Royal Society in those days that the Financial Secretary to the Treasury was replaced and the grant was restored. Happily, Mr President, the capacity of the Royal Society to overcome its reluctance to accept Government money has been proportionate to the passage of time so that by 1972/73 it has brought itself to accept some six-figure sums but, significantly, it has never forfeited its independent status. I think it says a great deal both for the Society and for successive Governments that this independent status has continued. Visiting countries often marvel at it, but it is one of the fundamental features of this country and, I believe, one which has contributed greatly to our success and will contribute greatly to what we can do for other nations.

But the ties between Government and the Royal Society have not only been financial. From Charles II's reign, British Governments have constantly appealed to the Royal Society for advice in connexion with undertakings of national and supra-national importance, and the Royal Society has even run certain courses of action upon the Government of the day.

Last night I stayed up rather a long time looking through some fascinating accounts of some of the advice of the Royal Society and its achievements (rather too long, I am afraid, to have a lengthy night's sleep), and what I read was far too interesting to have a quiet mind after it. The range of advice and the range of work carried out by the Royal Society has been immense. You have urged the improvement of the equipment of the Royal Observatory. You urged a change in the calendar in 1751. You advised on the ventilation of prisons. You advised on the protection of buildings and ships from lightning, a piece of advice which had perhaps an amusing consequence. George II at that time learned of the Royal Society's advice, learned that it had been given by one Benjamin Franklin, the representative in London of the dissident American Colonists, and that he had advised pointed lightning conductors. The Monarch thought he should be more patriotic and installed blunt lightning conductors. He consulted the President of the Royal Society, who said, 'Sir, I cannot reverse the laws and operations of Nature'. It is rather a nice example of the difference

between the truth with which you can pursue the exact sciences and the prejudices which often have to predominate in politics. And on the list goes the comparison of French and British standards of length; the general trigonometrical survey; expeditions to observe the transit of Venus; the Antarctic expeditions under Captain Cook; the great Melbourne telescope in 1862; the reorganization of the existing Meteorological Department; prevention of accidents in mines; international seismological investigation; international exploration of the upper atmosphere; a certain amount of medical research for workers in industry and recommendations on the observation of the total solar eclipse in 1929.

I have read out some of the list that illustrates a point that I would like to make, that, if you look through the Royal Society's work over the years, you find that they have engaged in a great deal of fundamental and theoretical work and they have also engaged in a great deal of applied science and in a great deal of international science. And this was long before we ever used those classifications or produced great science policies on the part of governments or even produced reports in which we debated these particular science policies. We have just had a prolonged national debate in which Fellows of this Society in particular have not been slow to declare their minds on the mechanisms whereby the public support of scientific research may more faithfully reflect the involvement of Government. Indeed, the way in which they expressed their views really followed very closely the advice that the Society gave to its Fellows as far back as 1667 on how it should express its views. The Society exacted from its Fellows a close, naked, natural way of speaking, positive expressions, clear senses, bringing all things as near the mathematical plainness as they can, to return back to primitive purity and shortness, when men delivered so many things, almost in an equal number of words. Well, I must confess, Mr President, that when the Royal Society delivered its views on certain reports its comments were not short, although one could have described some of them as being in fairly primitive language. Indeed, had they been made a year later, they might have reached 'Top of the Pops'.

Within the last few days, Mr President, the involvement of the Government in science took a very tangible shape. The first meeting of the Advisory Board for the Research Councils has taken place under its new name, thankfully under its old Chairman. That meeting had at it no less than eight or nine Fellows of the Royal Society as well as your good self. In setting up that Board, Mr President, we thought it essential for its healthy working that the Board should also contain a strong independent voice and it was natural that we should seek a presence from your Society itself and also natural that we should ask you to

be on it. And so the Royal Society, in taking part in the new involvement of Government science in perhaps a slight increased amount of effort towards the applied sciences, is only carrying on the traditions which are really a part of its history.

May I turn for a moment to the second role of the Royal Society where it has been active in international affairs. It has always been early on the scene in international science and it has built up formidable experience in promoting international links outside government. And the presence, of course, of the Foreign Secretary of the Royal Society here tonight demonstrates your concern in these matters. A vast number of new international scientific bodies spring up and in this country we play our role in them and it is a very distinguished role. Frequently we have to join in because no government can now afford alone to carry out the sophisticated research; no government can afford the expenditure of going into space or researching into the deep nucleus or into the deep sky without the co-operation of other governments. And so we take part in CERN, ESRO, OECD, the new molecular biology organization and so on. We are at the moment looking forward to entry into the European Economic Community and the Society will, as always, be ready, with the Government, to consider how institutions should be shaped and adapted, to further the true interests of science and to see how this country can best play its part in them. I, myself, do not believe that we should necessarily proceed by setting up complicated new European institutions. I believe that for the time being we can probably best secure greater co-operation between European scientists by increasing the informal contacts which we have had through this Society, and the Government has recently been very happy to make a substantial contribution this year towards increasing the scale of these exchanges in Europe in the future.

May I turn finally, Mr President, to the last aspect of the Royal Society's work, which in one way has always seemed to me the most significant. Despite the claims of commissioned research, the needs of fundamental research must never be forgotten. It provides many of the original discoveries of new concepts which subsequently prove to have more than theoretical significance and suddenly assume great economic and social utility. Professor Fred Stewart reminded us in a recent report published by C.S.P. that Lord Rutherford said in 1933, 'Anyone who looks for a source of power in the transformation of atoms is talking moonshine'. He was not, of course, to know that even moonshine would have yielded to scientific analysis by that time. But even he did not foresee the nuclear power programme. Without classical thermodynamics, we would not now have polythene or have provided the stimulus to investigate the

effects of high pressure on chemical reactions. Without the quantum theory of the solid state, we would not have semi-conductors. And even if he were alive today, Mr President, I think that G. H. Hardy could hardly take comfort in the thought that mathematics had any practical use. And if we disregard the need to carry on fundamental science and continued research into theory we shall deny ourselves the solutions to many problems which will arise years hence. We do not know what the application will be. We only know that unless we continue this kind of research and continue to put a good deal of money into it, we shall lack the capacity to make the maximum contribution in years to come to the future of this country and to other countries too. Mr President, as one of the representatives of Her Majesty's Government here tonight (and, far more important, we have here the Lord Chancellor and the Lord Privy Seal), I am proud to be able to pay my tribute to a Fellowship which has done as much as, if not more than any other body of people to shape the world in which we now live. At all times it has faithfully adhered to the principles laid down by its illustrious founders. The Royal Society typifies that excellence, co-operation and that independence which further the cause of science and humanity, and I am therefore proud to give you the toast to the Royal Society, coupled with the name of the President, Sir Alan Hodgkin.

*The President replied:*

In considering what I should say this evening I found myself wondering what our Royal Founder Charles II would have thought of the present occasion. I don't believe that he would have been at all surprised to find that our principal guest was a Secretary of State. In his day, politics, science and the arts were more mixed up than they are now, and it was not uncommon for a Fellow of the Society to hold high political office. But I believe that Charles would have been startled to see that science, which he never took very seriously, required the attentions of a senior Minister and that the Minister in question was female, as well as being a scientist herself. I am afraid that Charles might not have approved the appointment of a woman since he did not look primarily for intellectual qualities in the opposite sex. But I am sure that he would have given his thorough approval to the improvement in the aesthetic and decorative qualities of our dinner which our Secretary's presence confers. Mrs Thatcher, we greatly appreciate the kind things that you have said about us and are very glad that the important office that you hold is in the hands of someone who cares about science. It is common knowledge that you have been a strong voice for maintaining the science budget and we are grateful to you and your colleagues for their support.

During the past year the going has been quite rough for senior scientists and scientific administrators. Nothing like as rough as it has been for politicians and statesmen but still a good deal tougher than some of us quiet chaps like. The last thing that I would want to do here is to re-open what in some ways has been a rather unfruitful debate about science-politics and semantics. But in thinking about this evening's speech I did reflect on a remark made by Lord Jellicoe at a working lunch that he gave to some of us during the period of consultation. In passing perhaps I may be allowed to say that if the meal we had was a typical working lunch then I am surprised that George Jellicoe remains such a very good skier. Anyway, during the course of that excellent lunch I said to my host that I hoped he would find time to visit such-and-such a laboratory during his forthcoming visit to Cambridge. The visit had only just been arranged and Lord Jellicoe was surprised that I had heard of it so quickly on the scientific grape-vine. His comment was, 'The trouble with your lot, Alan, is that you're such a damned incestuous community'. In thinking over the remark I have wondered (a) whether it was true, and (b) if true, whether it was a good thing. The answer to both questions is plainly 'Yes'. I have no idea how many scientific societies there are in this country but the number must run into at least four figures. Of these the Royal Society is perhaps the oldest and is occasionally said to be the most influential. Indeed, I recently read an article in an American weekly which attributed to the Royal Society some of the qualities of the Mafia. I hasten to say that any resemblance between its President and the Godfather is purely coincidental. In addition to the many cross-links it creates, scientific research has the salutary effect of ironing out differences between old and young. In a laboratory or a department of mathematics you are forced to recognize that the Ph.D. student aged 25 is more likely to make an important discovery than the professor aged 55. This engenders a certain humility among people actively engaged in doing research. Whether scientists retain that humility outside the laboratory is a question on which different views can be held. But there can be no doubt that the links between old and young, as well as the many cross-linkages between different kinds of science, create a consensus type of approach which I believe to be a stabilising force in a modern society.

The strength of the young in laboratory work has its drawbacks. If research is your main interest in life, as it is mine, growing old becomes a somewhat lowering experience. The postgraduate with whom you work or even the students you are supposed to teach are usually more dexterous, more up-to-date and more intelligent than you are yourself. The senior scientist can console himself by thinking that he is wiser and more experienced than his junior

colleagues. But wisdom is intangible, and experience is not much of a consolation. After working on and off in the laboratory for thirty-five years I find that I can often predict the outcome of an experiment by applying a principle which I hope will some day be as widely accepted as Parkinson's Law or Page's Rule (I'll explain about Page's Rule in a moment). When you begin a piece of research you naturally hope that it will prove or disprove a theory in a convincing way, or better still give some new and sensational result. My principle is that in nine cases out of ten the answer will be neither the most exciting nor the most awkward, but the dullest thing that you can think of. The implication is that unexpected or sensational results must be looked at with the greater scepticism. Of course, every now and again something really exciting does turn up, but for much of the time we have to get our satisfaction out of less dramatic things—like getting chemical structures correct, making measurements as accurately as possible and interpreting evidence in a critical manner.

The presence of Sir Denys Page as one of our guests reminded me of the important rule which he enunciated many years ago. His principle states that most actions in life are taken for negative rather than positive reasons. Colleges appoint X to keep out Y or Z; a scholar writes a book at a particular time for fear that someone else will write it first; nations devalue their currency to prevent a disastrous run on their resources—and so on. Professor Page and I spent several years together on our College Council and we both got a good deal of fun out of seeing how well his rule worked out in that particular milieu, with which Lord Adrian and Lord Butler are also familiar.

You may feel it unseemly for the Presidents of the British Academy and the Royal Society to be exchanging cynical maxims of the Parkinson's Law variety. But a taste for satire is not incompatible with a wish to get things done and it certainly has no adverse effect on the very pleasant relationship that we have with the British Academy. The officers of the two organizations do in fact meet fairly regularly to discuss questions of mutual interest. Some of the things that concern us at the moment are the joint symposia that we hold every year or so (we have one next week on the history of astronomy), international exchange of both humanists and scientists and the position of science-based archaeology. Of these the last, which is perhaps the most important, is certainly the most difficult. It's always hard to raise money and particularly difficult in a borderline area where there is plenty of opportunity for passing the baby to someone else. Nevertheless I hope that something can be done because I have the impression that archaeology, in which Britain has a splendid record, is sadly under-supported in this country.

Nowadays we are all supposed to be so keen on applied science that it's

improper to mention the fact that someone has got the Nobel Prize. Nevertheless, perhaps I may say that we are all absolutely delighted at Professor Rodney Porter's splendid achievement, and give him our warmest congratulations. In fact I needn't be apologetic at all because it's quite evident that Professor Porter's work on antibodies has direct and obvious applications to disease as well as being of great fundamental importance. We hope that he will enjoy his trip to Stockholm (I am sure he will) and are glad that he is getting the 'Oof' as well as the 'glory'—as a former President once said when I congratulated him on a similar occasion in the past.

My colleague, Sir Kingsley Dunham, will be proposing the toast of the guests and I must not infringe on his territory. But I would like to say how very pleased we are that these include a number of distinguished scientists from Europe, the Commonwealth and America. I also wish to give a special welcome to two of tonight's guests, Mr Kaye and Mr Graddon, who were members of our staff and have recently retired after many years of devoted service, Mr Kaye as librarian and Mr Graddon in charge of the editorial department. Both activities have an ancient history and both remain of central importance to us. We had a library from the beginning, and *Philosophical Transactions*, which is probably the oldest scientific journal in the world, was started by Henry Oldenburg, our first secretary. Nowadays our publications are very important to us, not only because of their scientific content but because they pay for themselves and even occasionally do a little better than that. We are particularly grateful to Mr Graddon for all that he has done to maintain a very high standard while our publications were growing to their present quite considerable size.

In addition to his splendid work as Librarian, Mr Kaye has served as archivist and curator of pictures. For many years he has also had the annual task of classifying and making available the large amount of documentary evidence which is studied at the time of our elections. Earlier on I mentioned the Godfather, but Mr Kaye has in a sense been a kind of secret Godfather to many Fellows here tonight.

Both Mr Kaye and Mr Graddon can reflect with great satisfaction on the work that they have done for the world of learning over a period of so many years. They carry our gratitude and affection with them into their retirement. On your behalf I give them our sincere thanks and all good wishes for their health and happiness.

When I became President I received much good, though often contradictory, advice. Two very busy years have obliterated most of the advice from my mind but there is one precept that I do retain and even endeavour to follow. 'Remember', said X, 'your limitations as a speaker and never talk for longer



than is absolutely necessary.' On this occasion I fear that I am in danger of disregarding X's advice and therefore will come to my conclusion without more ado.

Mrs Thatcher, we thank you most warmly for speaking to us at this dinner and are very grateful to you and to the whole company for drinking our health.