

The Development of North Sea Oil and Gas

edited by

Gillian Staerck

ICBH Witness Seminar Programme

The Development of North Sea Oil and Gas

**ICBH Witness Seminar Programme
Programme Director: Dr Michael D. Kandiah**

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The Development of North Sea Oil and Gas

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**Chaired by Alex Kemp
Seminar edited by Gillian Staerck**

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Professor Emeritus of Erasmus University, Rotterdam, has been particularly concerned with European energy issues since the 1960s when the continent's indigenous coal industry entered its terminal decline phase. As early as 1971 he argued that the North Sea would become an oil and gas province of major dimensions in terms of reserves and of international importance in respect of its impact on supply and price.

**PROFESSOR MICHAEL
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served as Director of Economics to the Ministry of Power in 1966-7 and then as Deputy Chief Economic Adviser to the Treasury until 1971 and again between 1974-76. He continued his association with the Department of Energy through the 1970s, and served as Chairman of the Social Science Research Council between 1979-84.

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Professor of Economics, University of Surrey and Editorial Director, Institute of Economic Affairs. From 1960 to 1968 he worked for Esso Petroleum and Esso Europe, latterly as Esso Europe's Economic Adviser on North Sea gas, and was a member of Esso's negotiating team with the Gas Council.

**GEORGE WILLIAMS CBE
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BASIL BUTLER CBE, FEng.

was involved extensively in the North Sea, being responsible for the construction of the Ninian pipeline and the Sullom Voe terminal. He was later in charge of all BP's North Sea operations and then of BP's worldwide exploration and production activities.

SIR JOHN GUINNESS

The Department of Energy from 1980 to 1992.

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Deputy Secretary at the DTI 1972-74 and the Department of Energy 1974-1980, with responsibility for North Sea oil and gas policy. From 1976-80 he was one of the two government members on the British National Oil Corporation.

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Formerly in the Scottish Office.

SIR ALASTAIR MORTON

Managing Director of the British National Oil Corporation from 1976-80.

SIR IAIN NOBLE

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Citation Guidance

References to this and other witness seminars should take the following form:

Witness name, in 'Witness Seminar Title', held [date of seminar], (Institute of Contemporary British History, [date of publication], [full internet address of seminar]), page number of reference [use the number given in the header at the top of the page referenced].

For example, referring to Peter Kassler's remarks on the problems of estimating oil reserves from a discovery well:

Peter Kassler, in 'The Development of North Sea Oil and Gas', held 11 December 1999 (Institute of Contemporary British History, 2002, <http://www.icbh.ac.uk/witness/northsea/>), p.31.

For Harvard reference style, use (ICBH Witness Seminar, date of publication) in the text, and the following style in the bibliography:

'Witness Seminar Title', held [date of seminar], Institute of Contemporary British History, [date of publication], [full internet address of seminar].

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<http://www2.h-net.msu.edu/about/citation/general.html>

Introduction

The discovery and exploration of North Sea oil and gas has arguably been one of the most important events in recent British History.

The story to date has been full of drama and excitement, whether viewed from geological, engineering, economic, political, or sociological perspectives. The unfolding drama has produced spectacular successes and disappointments, involving many unexpected outcomes. An abundance of controversy has been generated.

This witness seminar brought together a group of individuals who were actively involved in the various aspects of North Sea activity from the earliest days in the 1960's to around 1980. The participants worked for oil companies, contractors, government, and academia, and embraced a wide range of disciplines including geology, engineering, and economics. Senior government officials and oil company top management were well represented.

The witness seminar was conducted over one day. This was a very short time, given the considerable number of issues to be covered. Nevertheless, it can be claimed that the seminar has succeeded not only in covering the key issues, but in highlighting the perspectives of the main participants at the time. The initial exploration prospects and the potential reserves constituted an early controversy, as did the utilisation and pricing of natural gas. The technological challenges of developing fields in the Central and Northern waters of the North Sea led to much concern regarding cost escalation and how it could be controlled. The scale of the discoveries provided exciting new opportunities for British industry.

Government involvement has always been substantial in North Sea oil and gas. As the licensing and taxing authority this is, of course, inevitable. UK oil and gas policies have exhibited much greater swings over the years compared to, say, Norway, where there has been more of a political consensus on major policy issues. In the early years, however, differences between the main political parties were not substantial. This applies to gas pricing, taxation, and the enhancement of opportunities for UK industry, for example. The main controversies were between investors and governments of whatever persuasion.

The witnesses clearly highlight the differing views on all the main policy controversies including reserves assessment, gas utilisation and pricing, taxation, state company participation, the appropriate role of Government in encouraging British industry, and the optimal depletion rate, and the utilisation of oil revenues.

The seminar has performed a unique function in enabling the views and reasoning of key participants in the unfolding events to be recorded. All with an interest in the subject should find the proceedings of much value.

Professor Alex Kemp, University of Aberdeen
Official Historian, North Sea Oil and Gas

The Development of North Sea Oil and Gas

Session I: Corporate Interest in the Development of the North Sea Fields

Edited by Gillian Staerck

This witness seminar, organised by the Institute of Contemporary British History, was held at the Science Museum, London, on 11 December 1999. Participants in this first session included James Allcock OBE, George Band, Dr Peter Broughton, Basil Butler CBE FREng., Professor Keith Chapman, Professor Christopher Harvie, Ian Henderson, Peter Kassler, Professor Colin Macfarlane, Professor Peter Odell, Michael Posner, Professor Colin Robinson and George Williams CBE, DSc, MA, FGS, FinstPet. The seminar was chaired by Professor Alex Kemp.

ROBERT BUD*

Dr Robert Bud, Head of Information and Research and Curator of Bioscience at the Science Museum, London.

I am responsible for research in the museum and was for many years curator of oil and gas here. My role is to welcome you to the Science Museum – the National Museum of Science and Industry – where we try to combine a study of the understanding of development of science and technology and also contemporary science. Nothing could be more on the cusp of those two interests than the development of Britain's energy experience in the last three decades.

I will hand over to my colleague Harriet Jones with whom we have been organising this day.

HARRIET JONES*

Dr Harriet Jones, Director, Institute of Contemporary British History.

I would just like to introduce the chairman today, Professor Alex Kemp, who has very kindly come down from Aberdeen. Professor Kemp has recently been appointed the official historian of North Sea Oil and Gas and I believe that many of you know him well already.

ALEX KEMP

The general procedure which will be adopted in the seminar is that, in each session, the selected key witnesses will give a short presentation on the main issues as seen from their perspective. This will be followed by questions and comments from the audience. The first session is on the changing perspective of key investors from the early period in the 1960s through to 1980. The sort of issues which I expect to be discussed include the initial prospects as seen by investors prior to the first licensing round in 1964, and how that perspective changed following the first discoveries. The reaction of

the investors to the various policy initiatives of government is of much interest. Obvious government initiatives include the early licensing and tax framework, and the first gas contract arrangements of the 1960s.

Moving into the 1970s how did the discovery of the big Forties field affect investor interest and behaviour? How did the introduction of the special taxation regime in 1975 affect investor attitudes and behaviour? What effects did the formation of the Offshore Supplies Office [OSO] and the British National Oil Corporation [BNOC] have on the investor's perspective? These are key examples of the issues that I hope can be discussed in this session. I would ask George Band to give the first presentation.

GEORGE BAND

My name is George Band. I had a lifetime with Shell internationally. In 1976 I came back to help with the North Sea developments as Technical Director of Shell Expro, and then on leaving Shell was appointed Director General of the UK Offshore Operators Association. I could look at the first question here: Why did oil and gas companies decide to explore and develop this technically difficult area, even before the oil price rises of the 1970s? I remember way back, as a young petroleum engineer, I was 'well sitting' on a well known as Slochteren-1 in August 1959. In fact that became the discovery well for the gigantic Slochteren field. Apart from the small reserves of oil in Nottinghamshire, and the small oil fields near The Hague in the Netherlands, it showed for the first time that there could be enormous accumulations of hydrocarbons bordering the North Sea. Even then Shell was contemplating moving offshore, near The Hague, to start exploring for them. That was a real challenge to undertake.

Moving on to the next question: Was there an expectation that prices were due to rise? I was in the Sultanate of Oman in 1972 and recall reading reports from our Shell planning people that there was even a threat that oil prices might fall below US\$1 a barrel. Then, of course, the Organisation of Petroleum Exporting Countries [OPEC] got its act together for the first time and the price immediately started rising two, three, four dollars a barrel. I remember back in The Hague in the mid-1970s, when we were making decisions to develop the southern North Sea gas and looking further north for oil, the price was starting to go up three, four, five dollars. It took a lot of courage for the oil and gas companies to develop fields in the very rough northern North Sea conditions and certainly one hoped that the price rises might continue to remove some of the enormous economic risk from these investments.

KEMP

It goes right back to 1964 when the first decisions had to be made. Can you say something about your perspective on the chances of success at the time for the first explorations round?

BAND

Well I was not concerned with the southern North Sea at that time.

George Williams was, so it would probably be better to give him the opportunity to answer that.

KEMP

Would others like to query or comment on what George has said? If not then we'll move to the next witness, who is Peter Odell, who will have quite a lot to say about the perspective in the earlier days.

PETER ODELL

Tony Benn, Minister of Technology, July 1966 to June 1970, Minister of State for Industry, Mar 1974-Jun 1975, and Secretary of State for Energy, Jun 1975-May 1979.

Thank you Alex. I'm described in the list of attendees as an adviser to Tony Benn;* there was, however, life before Tony Benn. And my essential background was at Erasmus University in Rotterdam, at a Centre for International Energy Studies. The research we did there on North Sea oil and gas, started in the 1960s, and lasted through until my retirement from there in 1992. There was thus a continuing process over 25 years to try to understand the changes that were going on in international affairs. From the late 1960s there was an expectation of oil price increases. I recall Geoffrey Chandler, the then Head of Shell's Economic Division, speaking at an Institute of Petroleum meeting in Harrogate in those early days. He concentrated on the danger of a rise in the oil price to US\$7 a barrel by 1980. In the days of \$2 per barrel of oil, this was an unbelievable proposition, but it turned out to be a gross underestimate. In February 1971 I published a piece in *New Society* in which I wrote of the western world being held to ransom over oil by the domination of the power of the United States, the multinational oil corporations and OPEC. I asked that Europe should take this seriously and try to get to grips with the burgeoning possibilities of indigenous natural gas as an alternative, together with the near-future prospect of oil supplies from the North Sea. In my view the development by the companies of, first, the onshore Groeningen gas field, and later exploitation of the south North Sea, was a function of the very firm expectations that the oil price was not going to go below one dollar a barrel except for a very short period. So it came at a good time in respect of the evolution of international oil industry arrangements.

On the second question of the technology available within the offshore world, we all know now just how limited it was compared to what it is become. But the essence of the problem, in terms of knowledge at that time, was the imbalance between private and public knowledge. That was one aspect of North Sea developments on which we concentrated in a couple of major research projects we undertook at that time. The companies knew the basic elements of the North Sea's geology, having extrapolated from the success of Groeningen and having had other good indicators as to the productivity, or potential productivity, of the rest of the province. The rest of us didn't really know that. Moreover the companies knew how to work offshore in a primitive kind of way as a consequence of experience elsewhere, and were happy concerning their successes in the south North Sea. They gradually became even happier as they moved north and found it to be very oil rich. But, again, the rest of

us were not desperately well aware of how things stood and where things might go in terms of the evolving technology of the offshore industry. That contrast between public and private knowledge gave power to the corporations, in the sense that they knew exactly what they wanted at that time. I'm not saying that they abused that privilege, but they did know more than all the rest of us put together and, because of that, they were able to achieve concession systems, tax rates, and relationships with governments which emerged from that inequality on the distribution of knowledge between the parties.

Moving on to the third question, Mr Chairman, that of estimating reserves, they under-estimated the potential significance of the North Sea. I think that they were guilty of deliberately masking the potential for the North Sea even at that early stage. I remember Mr McFadzean, then the Chairman of the Royal Dutch Share Group, saying that at best the North Sea would produce only incremental demand for oil by Europe, so it was couched in pretty modest terms. The first study, I think published by outsiders, was the one that we made in the early seventies on the simulation of the ultimate reserves of the North Sea. Its results, indicating significantly greater reserves than the industry was then presenting, were a matter of concern and importance. It led, of course, into the question of the impact of such a high reserves potential on the whole future of the energy system in Europe. On the production side, the speed with which high levels could be achieved proved to be over-optimistic. But the idea, in those days, that a majority of Europe's oil would eventually come from within Europe was simply anathema to the companies and not believed by governments. This was still so as late as my subsequent work for Mr Tony Benn between 1977 and 1979. In spite of his radical views on most things, even he was not inclined to be radical with respect to the opportunity which new forecasts of the massive North Sea potential gave the Labour government at that time to generate resources and wealth from the faster exploitation of the North Sea. Had that opportunity been taken then, it probably would have led to the Labour government remaining in office in 1979, rather than being defeated. The consequences of that would have been huge but, for the better or for the worse, it is not a matter I think for this seminar. Apart from that, there are a number of issues that are, I think, worth discussing today. These concern that early period of North Sea development, in terms of the contrast between companies' knowledge and public knowledge, on the prospects, on the way the public reacted to the opportunities, and the impact on policy developments.

KEMP

Thank you Peter Odell. Would others now like to comment or question?

BAND

Yes please. I know people have said that the oil companies were over cautious, and sometimes even accused of lying about the

extent of their reserves, but such people may not know much about the technique and theory of calculating expectations of reserves. It is important for the companies to be fairly cautious, particularly in view of the hundreds of millions of pounds that may be needed to develop a single field, and that they plan for the development of the reserves that it is pretty certain are there. I take a case from the development of the Dunlin field. I was chairman of the Dunlin management committee. We estimated there were about say 300/350 million barrels recoverable to justify the initial development. This was based on say half a dozen appraisal wells. A platform was constructed and placed over the field, which consisted of several fault blocks. The first development was drilled vertically down which we assumed was in the middle of the field and would help to prove up those reserves. To our astonishment it was a dry hole. Estimations of the seismic velocity had resulted in the central fault block being lower than expected and below the oil/water contact. We probably lost about a hundred million barrels of expected reserves straight away! So these are the kinds of reason why the oil companies have to be very careful about estimating reserves. They are not prepared to gamble on spending hundreds of millions of pounds, on the expectation that there may be a ten per cent chance of 500 million barrels.

KEMP

If I may interrupt here, would it not be fair to say that the success rates in the early days in the Southern basin were quite high, both in terms of discovery rate and size of field? A few years later, when exploration moved north and Forties field was discovered, the success rates were also very attractive weren't they? Irrespective of the details of the size of the reserve base, wasn't the investment climate very attractive?

BAND

I think George Williams is a better person to answer that than me, as he was involved at the time.

GEORGE WILLIAMS

Can I come in on that. The situation in the early 1960s was that the majority of geologists were quite optimistic about finding gas in the southern North Sea because of the results both in the UK and in Holland. But regarding the northern North Sea, geologists were very divided on whether there would be any possibility at all of finding either oil or gas. And that was true certainly within companies where there were frequent arguments as to whether the whole thing was going to be a waste of time. There was no unanimous opinion that there was any certainty of finding oil in the northern North Sea. Those of us who had put our plate tectonics into practice had worked out that there was a very good opportunity of finding Jurassic and Cretaceous rocks in the northern North Sea. Consequently, because of that, there would be a good chance of finding oil. But that view was not in any way unanimous.

KEMP

Seeing that we have come to you, would you like to say a bit more on your perspective of the whole subject from the investors point of view?

WILLIAMS

Well in the early 1960s the expectation of the forecasters in the industry was that there was going to be a very rapid rise in the world demand for oil. I think the estimates were excessive, as they did not allow for the improvements in efficiency that certainly took place. As the demand was expected to increase rapidly it was also expected the price would increase, and that might hopefully take care of the increase in cost of finding oil in difficult conditions like the North Sea. As you know, we were faced with most of the reserves of oil coming from the Middle East, and we were anxious to find it elsewhere. That also gave us an incentive to start. As you rightly say, we were fairly rapidly successful in the southern North Sea with finding gas, but it took a little longer to find oil in the northern North Sea. But again the success ratio was probably well up to the world average, if not exceeding it. Regarding estimated reserves, I can assure you that there was no deliberate effort to mislead on reserves. Those of us that were involved in estimating reserves were trained to do so scientifically with the results of only the first well on a structure, so we had to be very cautious in estimating the reserves. We needed several wells, but everybody wanted our estimate of reserves immediately we announced any discovery. That was just not possible to give and we did not attempt it and were cautious. I think rightly so. Regarding the second issue: What effects did the R and D spending required have on companies? This was, of course, part and parcel of our whole business and played a definite part. What did the onshore play in the calculations? None, as it was a different game drilling in the North Sea from drilling on land. To what extent did government intervention hold the industry back? There was initially very little intervention and so we were not held back. Later on intervention appeared, and that did hold us back. Turning to the conflict between Labour and Conservative, in the oil industry we tried very hard to avoid getting into politics, and while sometimes it had an effect, sometimes it didn't. What role did the possible British entry into the EEC play in the decisions by the oil companies? My recollection is that it was very little indeed.

KEMP

Can I take you back a little bit and look further at the investor's perspective? In the Southern basin the technology and the technical risks associated with the developments probably were not dramatically different from those experienced in the Gulf of Mexico. Could you say a few words about when you started development in central and northern waters and tell us how the technological risks appeared to you as an investor?

WILLIAMS

Very risky. When I attended board meetings in Shell, I can tell you

that some senior geologists involved predicted, much to my consternation because I'd been given the job of trying to find oil for Esso and Shell in the North Sea, that not a single barrel of oil would come out of the northern North Sea. So the risk was considerable.

KEMP

On the cost risk I think it is well known that there were huge cost overruns on some fields where your company was associated, with the Brent field being an example. Could you say a few words about that?

WILLIAMS

Well, Brent was, of course, a dream come true for some of us. When we drilled through the unconformity close to the base of the Tertiary we didn't know whether we were to expect Cretaceous and Jurassic rocks or whether we'd go into Devonian rocks. If it were the latter, there would be nothing in the northern North Sea. But with a good sequence of Jurassic and Cretaceous rocks, there was all hope and that's exactly what happened, so we were all very, very elated.

KEMP

My question was more on the cost and associated technology position relating to the 1970s. Would it be fair to say that, if it had not been for the huge increases in oil prices, some of the fields would have looked pretty poor from an economic point of view?

WILLIAMS

That's true. We realised that if we were ever going to make a go of this we had to find big fields, with high productivity. And that was exactly what happened fortunately. But at the time we started, as I have explained before, some geologists felt the chances were zero. Basil Butler will be able to tell you what happened inside British Petroleum [BP], but I suspect there you had some people who were very optimistic and some people that were very pessimistic. That was certainly the case in Shell, and in Exxon for that matter.

KEMP

Would anyone on the panel like to comment on what George [Williams] has said?

ODELL

If I could just come back on one point and emphasize that, when I spoke of the estimates of reserves, I was not speaking about the estimates of a particular field. Although it was never ever presented in public by the companies, it is a fact that what you get out of gas/oil fields by way of revenues recovery is a function of what you decide to put in by way of investment. What one was able to show in those days was that decisions to invest more money would have produced more oil. This has subsequently been shown, with hindsight, to be correct. But what I spoke about in my introductory remark was the sequential presentations of the ultimate reserves of the North Sea, given the experience that was being gained on a

week by week, month by month and year by year basis that could have been made through the late 1960s and early 1970s. The failure of the industry to give any clear indication of what they thought the ultimate reserves of the province would be was a dereliction of duty. Now, it is no good saying we were ignorant, as though we did not know enough, because the industry, comprising exactly the same companies undertaking the exploitation of the North Sea, did exactly that everywhere else in the world. And the US Geological Survey [USGS] has been doing it for donkeys' years. They estimate the ultimate recoverable reserves of oil and gas provinces in which no wells have been drilled. Such efforts at that time *vis-à-vis* the North Sea's prospects would have been welcome in order to inform policy-makers, inform politicians and inform the public generally. Some indication by the companies of the realities emerging, as to where the North Sea was going in light of the succession of major discoveries from 1969 onwards, was required, but not forthcoming. When we did our Monte Carlo simulation of the potential reserves of the North Sea in 1975, there was more than enough on which to work. I think one hundred and seventy fields had been discovered by that time. So it was not a question of not knowing enough, it was a question of the companies not being willing to say what the prospects were. And a question of the companies not being required to say what should have been said to inform the public, rather than keep it in ignorance. Unlike the situation in the United States, where not only the government but also the Securities and Exchange Commission [SEC] insist on having pretty good ideas as to what the companies have discovered. This is where the difficulties arose for public policy-making in the UK and elsewhere at that time. Whilst one understood the reasons for the companies' reticence as a means of improving their power relative to governments, it was a disaster in a real sense for European energy policy-making because it cost thousands of millions of pounds in investments made in more expensive servers of energy, especially coal and nuclear power that need not have been made.

BASIL BUTLER

Basil Butler, ex-BP. Can I make a comment about the reserves estimation that Professor Odell has been speaking about? The importance of the attitude of the Securities and Exchange Commission of the United States should not be underestimated. It is very difficult indeed for a company, in fact it would get into very deep trouble, were it to start talking about reserves which it had not proved. And the idea that we could make a statement about what the ultimate options in the North Sea were, would have meant that we ended up with most of the Directors of the major oil companies in gaol, or certainly being sued, because many of the companies had involvement in the United States at the same time. So it is very important to remember how firm the SEC rules are. In fact, in the United States, you can only claim reserves where you have actually drilled a well. So I think that it is quite wrong to say that the compa-

nies were themselves keeping information secret in the North Sea, they just could not publish information legally where they did not have proven reserves from drilling.

KEMP

While you're on your feet could you say a little bit more about the investors' perspective?

BUTLER

Yes. Well, I would agree exactly with what George Williams was saying. All the companies were extremely concerned about the risks that were being taken in the North Sea. And it was breaking completely new ground. The technology of developing a field in deep water in the North Sea did not exist at all; all we had to go on was the rather primitive technology based mainly in the Gulf of Mexico. Which is a very different situation indeed. So there was a great concern about the technological problems of actually producing oil even if you found it. Perhaps I could just take up, while I'm up on my feet, the point about why the companies went to the North Sea with all these difficulties. I was actually, at the time, general manager of the Kuwait Oil Company that was owned half by BP and half by Gulf at the time. And there was very great concern that we, and all the other companies in the Middle East, were going to be nationalised eventually, which indeed is what happened. I remember very vividly a Director of BP coming out to Kuwait and his passing words to me were: 'For God's sake keep this thing going until the North Sea and Alaska come on.' And it was very much an attempt to diversify away from the Middle East that brought the companies into the North Sea, despite all the risks. And I may say that the estimated price of oil on which the Forties field was justified, to my recollection, was about US\$6 per barrel.

KEMP

I remember that the famous Forties loan had a base price of \$2.50.

BUTLER

... US\$2.50.

WILLIAMS

... less than US\$3.00.

BUTLER

But, in fact, I think that later on people were saying, well it has got to be US\$6.00 for us to survive and avoid financial disaster.

WILLIAMS

Yes absolutely.

KEMP

We will now pass to Ian Henderson.

IAN HENDERSON

Thank you Alex. Ian Henderson, I was a senior topside designer for Shell in the early 1970s. On the question you asked, George, about what would have happened to Brent if the oil had stayed at \$2.30, which was the basis on which the decision was originally made, we

really would have been in big trouble because our cost estimates were way out. I guess we are going to talk this afternoon about the lack of knowledge of the new technology. We thought we were taking another a step further; in reality we were making a quantum leap, and we totally underestimated the costs involved. Had the oil price not gone up, I don't think I'd have been working for Shell for much longer after about 1974.

KEMP

As long as you're on your feet, would you say a little more about the investors' perspective as the story developed?

HENDERSON

Well, I wasn't really involved in it. I was involved in the technical side, trying to design things, trying to make cost estimates, in an area in which we were out of our depth in many ways. I think we will come back to that this afternoon. Had the oil price stayed at what it was when the investment decision for the Brent field was made, based on the first cost estimates for the development, we would have made an enormous loss. So the fact that the oil price went up saved many of our careers.

ODELL

But Shell had expected the oil price to rise.

HENDERSON

Maybe, but not from where I sat at the time.

ODELL

Wasn't it written into the five-year forecasts of the company at that time?

HENDERSON

Not to the extent it went up, I don't think.

ODELL

Not to the extent Jeffrey Chandler said, US\$7.00 in real terms by 1980.

HENDERSON

... but US\$7.00 in 1980, the actual cost of Brent, would still have...

ODELL

... it is still 1970/71 dollars, we had big inflation in those days...

HENDERSON

Yes but our cost estimates were way out, our estimate of actually what it was going to cost to develop this thing were way, way, way out. Much further out than the oil price estimates.

ODELL

By the time Brent came on, the price had already gone up.

HENDERSON

By the time Brent came on we had already spent a hell of a lot of the money because we were already into it. Once you are into it, at a certain stage it works out a bit like 'when you're in a hole, stop digging'. When you're in an investment situation, stop investing.

But because the price was going up we were able to carry on, in fact, otherwise we would have been in big trouble, although my boss chewed me out over some of those cost estimates.

KEMP

Would Keith Chapman now like to comment?

KEITH CHAPMAN

I'm Keith Chapman from Aberdeen University. My comments really are based, not so much on participation in the events, but rather as an observer of events. But I hope they are reasonably well informed. I remember discussing the issue of reserves with Peter in the early 1970s when I was a very junior academic preparing some material for a book on the North Sea. At the time, I will say, he failed to convince me of the validity of his simulation model designed to predict ultimately recoverable oil reserves in the North Sea.. But I think, with regard to the reserve estimates, there are two issues here. One is: Did the oil companies underestimate the reserves? And we now know that they did. However, the second question is: Did they deliberately underestimate the reserves for purposes of political advantage? And I think that is quite a different issue. It seems to me all our experience, with respect not only to oil reserves, but other mineral reserves as well, is that for all sorts of technical and commercial reasons these reserves are underestimated. If we look at reserve trends, not only for oil in the North Sea but also in the context of other situations as well, we see exactly the same pattern. I think that the range of estimates that BP were offering for ultimately recoverable North Sea reserves in the early 1970s, based on published work, was in the range of 3000 to 7000 million metric tonnes. We now know that this is the range for the UK sector alone, excluding reserves elsewhere in the North Sea. But I return to the basic point: Were they underestimated? Yes. Were they deliberately underestimated, for the reason that Peter has implied? I think it is much harder to reach a conclusion on that, and short of deathbed confessions, I don't think that we will ever know the answer.

KEMP

Would Basil [Butler] like to comment?

BUTLER

Could I add one small point. There was a great deal of pressure on oil companies, by Professor Odell and others, to come out with more information on our estimates of reserves in an area. And one of the areas at which people were looking at that time was the Irish Sea. One of my colleagues, under pressure I think, made some pronouncements about the Irish Sea where the geology has certain similarities with the North Sea, and got everyone excited; and all sorts of organisation were set up to exploit this great treasure that was going to be found in the Irish Sea. Of course when the wells were drilled it was as dry as a bone, and this was a case where we would have been better not to have said anything at that time. If we followed Professor Odell's advice we would have made even more

pronouncements about the Irish Sea and other areas which turned out to be quite unjustified.

ODELL

As it happened Mr Chairman we did a similar study on the Irish Sea and our forecasts of the ultimate reserve of the Irish Sea was zero to something.

BUTLER

We should have used you as a geologist.

KEMP

Would George [Williams] like to comment?

WILLIAMS

I want to make the point that our estimates of reserves were not underestimates at all. We were fairly good at estimating reserves once we had enough information, but everybody wanted the reserves before we'd drilled sufficient wells. There was certainly no deliberate underestimating; if we didn't have enough information, we didn't give any estimates of reserves.

CHAPMAN

The point I was making really was that, at the time of the debate that Peter was engaged in with the oil companies, there were two or three papers published. I think one was by Jack Birks and one was by Warman, who were geologists with Shell and BP respectively. Both made, on the basis of the information, which they had, available at the time, certain estimates for ultimately recoverable reserves from the North Sea. Now when I said those were underestimates I meant in the light of the knowledge, which we now have. I think that you'll find that those were significantly lower than our existing predictions.

WILLIAMS

No, I don't agree at all.

ODELL

I don't think, Mr Chairman, that you can estimate in the light of hindsight! You can actually state facts. Estimates everywhere in the world – in the oil world – were made in the way I have described in terms, that is, of the recoverable reserves. Britain didn't do it. Why not? Perhaps because the governments were not in a position to insist or the companies were reluctant. Norway, of course, got into the establishment of a public body to do this work much more quickly than Britain by the formation of the Norwegian Petroleum Directorate. It set up a team specifically to look at those issues and came up with figures that were significantly different from those of the companies working in the North Sea. It took a long time before any public body in this country got around to doing that, because they were not put under pressure to do so by the politicians, who should have been doing it in order to ensure that they had knowledge equal to that of the companies, and in order to be able to negotiate with them effectively. And I think that needs explaining in terms of the early days of the North Sea. Not only from the

companies' point of view, they did what they had to do. But why was it that the government didn't come in at the much earlier stage? Or get to grips with the realities?

WILLIAMS

On the contrary the Brown book, I think, was first published in the early 1970s, and that gave an overall estimate of potential reserves of something like 16 billion barrels, which was quite reasonable. So these sort of estimates were being made by the government and being published in the Brown book.

ODELL

On the contrary, those estimates were taken from the companies' estimates, not being made by the government.

WILLIAMS

Well ...

ODELL

There was no one in the government to do them.

WILLIAMS

Well, we gave the government just as much help as we could. They had all our results. We certainly didn't hold any back. And those estimates in the Brown book were, I think, considered very reasonable by all the oil companies. They were being published in the early 1970s.

KEMP

We will have just one more contribution, from Christopher Harvie here, on the reserves issues, because we've got many other important topics to cover.

**CHRISTOPHER
HARVIE**

This reminds me of a comment made by Richard Funkhouser, the American consul in Edinburgh and a petroleum geologist by profession before he went into diplomacy, when I interviewed him in 1994. He said that poker was the favourite game of all oilmen. He was referring to the situation in America where you're still at arms length (as British oil men are) from government, but of course have to deal with the Securities and Exchange Commission. This certainly had an important role in moulding oil politics, but the linkages to the Middle East meant that the oil companies in America also functioned as an arm of government, by virtue of America's control of regional politics. That linkage was blown by the events of 1973. So when we look at investment in the North Sea, we're not just looking at British investment, but at the US reaction to a world oil crisis, which had implications for the North Sea.

What interests me is the extent to which the American approach to oil was fundamentally diplomatic. If we search the British Library Catalogue for books on 'oil', what we get is largely to do with politics, the technical side taking a relatively minor role. Which wasn't, of course, the case in the North Sea, where the technical problems predominated. But they *were* going to the North Sea, as you so rightly say, because of the problems in the Middle East, and that I

think changed the situation enormously.

KEMP

Could Peter Kassler now say something on this subject?

PETER KASSLER

Well I'm a geologist. I spent the first few years of my lifetime Shell career working as an exploration geologist looking for oil and gas in the field in various countries, and then spent quite a lot of time in economic evaluation departments, evaluating oil and gas investment projects. Some of the time I worked on the same corridor as Ian Henderson, evaluating potential oil-field developments based on the costs which he estimated and passed along. So we share complicity in some of the things that happened [*referring to decisions to invest in the North Sea*].

On the reserves issue, I believe that Peter Odell consistently wished to underestimate the degree of uncertainty and risk involved in estimating ultimate recoveries of basins. It is a completely different matter when you're talking about the reserves contained in a partly-developed field. If you drill a well in a field you can have some idea [*within a range of uncertainty*] of the reserve volumes you can prove up with that well. However, to extrapolate from a discovery well, drilled at the start of the life of a field, to a whole basin, is simply not valid.

The uncertainty inherent in such estimates is illustrated by the range of sizes estimated for the world ultimately-recoverable oil reserve, about which there has been long academic debate. We are now talking about an industry which is one hundred years old; which has drilled many, many thousands of wells in many, many countries. Nevertheless there is still huge debate among academics about the ultimate size of the resource. The range of uncertainty between the low and the high estimates is of the order of two to three and a half trillion barrels. Yet this is an industry which is now very close to maturity. This is not a trivial topic, because which estimate you believe can make quite a difference from a public policy viewpoint. So I really believe it is not correct to suggest that information is being covered up. There is, rather, a wide cultural difference between the viewpoint of geologists and reservoir engineers and those of some academic commentators. The former perform reserve estimates as a series of technical calculations, constrained by the fact that their reputations, and very often financial success, depend on their being pretty sure that the oil is there. At the other end of the scale one finds some academic commentators who treat resource estimation as more of a statistical exercise and feel free to extrapolate far into the future from quite uncertain information. I don't think that gap will ever be bridged.

KEMP

Thank you Peter [Kassler]. I want to stop the discussion of reserves now because there are many other important topics that we want to discuss. I'd now like to ask Colin Robinson about his recollections on the investors' perspective.

COLIN ROBINSON

I'm Colin Robinson, Professor of Economics at Surrey University and Editorial Director of the Institute of Economic Affairs. In the 1960s I was working for Esso, latterly as the economic advisor on UK natural gas, and consequently I was part of the Esso negotiating team with the Gas Council in the early stages.

I will say first a word about reserve appreciation. There was a great deal of uncertainty about reserves, particularly early after discovery, and I don't think that oil companies deliberately underestimated reserves, but people maybe have forgotten that the environment in those days was totally different from what it is today. There was a strong belief in government intervention in all areas of the economy, and the market in which the oil companies were operating was heavily politicised. In that sort of environment your reserve estimate actually becomes part of a game in which there probably was some underestimation by the companies. I don't blame them for that, I think it was part of this particular game that was being played at that stage.

Now I think the two Georges [Band and Williams] and others have said what there is to say about the early days, so let me say something about government intervention and about Labour and Conservative attitudes. It is wrong to think there was very much difference between Labour and Conservative attitudes on the North Sea and that it had much effect. The licensing terms in fact were laid down by a Conservative government originally, and they were followed by Labour governments, and later Conservative governments. Everybody, in effect, stuck to the original idea that licences would be handed out, by what is politely called 'the discretionary method', by the civil service. In my view that was probably the first big mistake that was made in the North Sea. Because the licences were given out for free, instead of being auctioned as they could have been, it meant that the government realised afterwards that there was going to be a problem of trying to realise what they thought was rent or excess profits from the North Sea. So in the case of gas they used the Gas Council in order to try to hold down the price of gas, and then when oil came along they had to devise a complex and not very effective tax system to extract the rent that way.

In the case of gas it is a bit of a myth to think that the oil companies negotiated with the Gas Council. Everybody knew that in fact they were negotiating with the government, and it wasn't even with the Department of Energy in its various incarnations. Hovering in the background always was the Treasury and also the various advisers which the Prime Minister had, in particular Tommy Balogh,* who had a very big influence on the negotiations. I think in many ways the Gas Council was a front organisation for what went on. The rather naïve idea that you can get benefits for the consumer by holding the price of gas down, was really not at all helpful. What happened was that the price of gas was in fact held very low by any standard you might choose to take. And consequently this so-called rent from the North Sea was primarily transferred into what was

Thomas Balogh (Lord Balogh). Minister of State at the Department of Energy, March 1974 to December 1975.

then the nationalised gas industry, reducing efficiency pressures so that costs were for many years excessive. In fact it took a long time – until the gas market was liberalised in the 1990s, in fact – before the gas industry managed to get its costs down. I don't think the consumer benefited very much from the low gas price.

And then when oil came along it was decided that oil would be sold at world price, because the government really had no alternative. And so we had to have a tax system developed – a combination of corporation tax, Petrol Revenue Tax [PRT], the Supplementary Petroleum Duty and royalty – most of which have now disappeared. It would have been much better if the government had auctioned off licences as it went along to extract the rent that way. The tax system which we analysed in the early days has tended to hold back the development of the North Sea. It has been unnecessarily complex. It has not done the job which was intended: which was to try to help small fields. So, my feeling is that, though there wasn't much party political difference between the Conservatives and Labour in the North Sea, there were a number of unfortunate effects from the policies of both Parties, some of which stem from the initial failure to auction off the licences. The whole episode, with the Gas Council trying to hold down the gas price, and then the development of this complex tax system, was a mistake. Later, when the government had to make a decision about depletion policy, I think probably the right decision was made which was to adopt a fairly 'hands-off' attitude towards depletion policy in the North Sea.

KEMP

An economic term, the opposite of monopoly, meaning one purchaser to many sellers.

Can I ask a few questions, Colin [Robinson], about the investors' perspective with the initial gas contracts in the Southern basin? How would you describe the effects of the system which was put in place involving the *de facto* monopsony* power of the Gas Council on the investors' perspective. Was there a realistic alternative? Could there have been a market with several buyers for example? Could you say a little more on how the institutional arrangements affected the investors' perspective?

ROBINSON

It would have been difficult in the early days to have divided up the British gas industry and let the parts compete. But there was an alternative which was laid down in the legislation [the Continental Shelf Act 1964] which, if you looked closely at [Section 9] said that, if the oil companies were not offered what was described as a reasonable price, they could bypass the Gas Council and sell direct to industry. But it was made very clear to us by the government that that was not actually an option even though it appeared in the legislation. In fact, a colleague of mine and I devised a scheme under which we would have sold all Esso's gas to power stations. We thought we would probably get a better price if we did it that way, and we would have bypassed the apparent monopoly. But we were instructed that the government was certainly not going to allow any

such thing. So, though the legislation had a loophole to allow companies to bypass British Gas, or the Gas Council as it then was, creating a market in gas, the government would not allow this to happen. Consequently the oil companies had no alternative but to sell to the Gas Council, except for some minor chemical purposes, and the buyers' market did not appear.

KEMP

Can I be the devil's advocate and pursue this subject just a little further? If you look at what happened *ex post* to the early investments in the Southern basin they generally turned out reasonably well.

WILLIAMS

Can I correct ...

ROBINSON

Can I just answer that because the companies continued investing in the 1960s; but, of course, once the gas price had been agreed, effectively they stopped investing in the Southern Basin. They all went up north and there was a long period of virtually no wells being drilled in the southern area, because everybody wanted to get oil because they knew that they'd get a market price for oil. They were not interested in gas because of their experience in these negotiations.

JAMES ALLCOCK

Could I add a point Mr Chairman and that is that, first of all there was another model that had already been introduced some years earlier in the Netherlands, whereby the consumers were charged the market price for the gas in relation to the best oil alternative. And the companies collected that or Gas Unie, the equivalent of the British Gas Council, collected that and the government took its share out of the surplus revenues occurring from that. Now someone, I think it was Mr Williams, said there was not much influence from the European Economic Community [EEC] there. Well perhaps this is an indication of the degree to which we were isolated from Europe at that time. And you could have found a different way of doing it and have produced a situation in which the south North Sea would have become more prolific more quickly. But on the other hand, I don't think it was as inert as Colin suggested. Certainly government was involved behind it, but it had at its top people who were persuaded (again coming back to the reserves issue) that gas reserves were limited and the most this country would ever produce would be three thousand million cubic feet daily, 30 milliard cubic metres a year. And that was taken as the sole objective of the Gas Council. Once we've sold that 30 billion cubic metres per year then we've done our job, we sit back on our hands for the rest of our working lives and collect our salaries and whether there's more there or not in a sense doesn't matter. There was a deficiency in the way in which the Gas Council saw its future in such a limited way. So we were curbed by bureaucracy and the lack of contact, to some extent, with the outside world and with more appropriate ways of doing things than were chosen in this

country at that time. I wouldn't agree that the Netherlands was a model, but I think Peter was right that the Gas Council was an obstacle, in the sense that it was quite difficult to squeeze the quantity of gas that was appearing through this really relatively small organisation. I remember the market for gas in this country had been fairly stagnant for many years and the Gas Council had no experience with extraction. I think that was an obstacle to the way in which the gas market developed.

KEMP

Can George Band speak now?

BAND

Could I make two observations here. Of course we were obliged to offer gas first of all to the Gas Council, but in theory there was also the alternative that we could have sold it, particularly gas from near the median line, to some of the countries on the continent. But it was made quite clear that that wasn't really acceptable. And a second point, when one came to develop the northern oil, which had quite large quantities of gas associated with it, we were still faced with the derisory gas price offered by the Gas Council which was based on the cost plus figures of the much less expensive southern North Sea gas developments. And I recall in the early days of deciding on Shell's Brent development, which required four huge platforms, it was considered that the gas price was so uneconomic that plans were made initially to flare all the gas for the lifetime of the field. At peak production rate, this would have meant gas being flared equivalent to about 10 per cent of the whole UK daily consumption! Thank God eventually the Gas Council was persuaded to pay a somewhat higher price, and so that gas compression equipment could be economically justified and squeezed at great expense and effort onto those four Brent platforms.

KEMP

I'd like to add one point there which leads on to what Colin said about loss of interest in exploration for gas in those days. I think one important factor was the signing of the Frigg import contract from Norway. This was for a very large amount (and at a much higher price). This certainly had a negative effect on activity in the British sector.

WILLIAMS

Mr Chairman that was of course a bit later. I'd like to remind the audience that the very first price that was offered was five pence per therm on a provisional basis for gas from the West Sole field.

KEMP

You are talking in terms of *denarii* here [old pennies].

WILLIAMS

After the provisional price for West Sole gas had been set, we got into negotiations with the Gas Council and I can agree with some of the points that Peter Odell made that their methods were perhaps a little archaic. But also I can agree with Colin that we were

told very firmly what to do and that they came up with this offer, take it or leave it, of 2.87 pence. By that time we'd already built our platforms and drilled our wells and laid our pipeline. I can tell you the very low price set was a great disincentive. We stopped drilling any more exploration wells in the southern North Sea and concentrated entirely on exploring for oil in the north.

KEMP

Thank you very much. We have Michael Posner here who can certainly contribute to this debate.

MICHAEL POSNER

Well thank you Chairman. I'm happy to be called on this particular point – sorry I'm late arriving. Actually how Colin Robinson set the scene seems to me a good story and its only necessary for me to find one or two key points where I wouldn't altogether agree with him to let that story make the framework of your discussion. I quite agree that a central point was: we didn't expect much more gas than we already knew of in 1966. That was an error that Peter Odell told us about, about once a month, then and thereafter and he was always right. Because we didn't expect much more, what we thought, that this was a premium fuel, was the language of the time, which should be used for only premium purposes. And the reason for not contemplating, tolerating, the possibility of power station use at that time, how absurd it now looks but that was the framework, was that we wanted to reserve the gas for where it would bring most benefit. And of course the Gas Council was the chosen customer in the legislation, which I personally regarded as something I inherited, and didn't question very much. And it is quite right that it was a [piece of] Conservative legislation, non-controversial between the parties. It wasn't until I saw an article by Kenneth Dan about three or four years later that I realised that this was a British – wholly eccentric – way of doing things, and that an auction was a possibility. Although I argued then, and would still argue now, that an auction price agreed early on would have left much more of the bounce, as we called it, in the pockets of the companies and much less in the possibly wasteful pockets of the gas industry. And I think actually the consumer would have been a little worse off. We did extract some tax from the gas industry, it needs to be remembered, later on. And the arithmetic that I did at the time when I wrote my book suggested that the customer plus the government had made a reasonable thing out of the southern North Sea gas, but not a great killing. On the question of whether the Gas Council was free or whether the government did it: Bob Marshal, who ran the affair, was always very strict to insist that those of us playing on the government must regard ourselves as relatively partial. And we did not actually lean on the gas industry representatives to the extent which the comments you've had from the table so far suggested. But of course there was a conscious use of that negotiation to keep the profit after tax at what we thought was a reasonable level. Quite different considerations arrived with

the oil, because then quantities began to appear as much more important and we did rely to some extent on a combination of competition between the companies and the PRT regime which had its ups and downs, but did collect quite a lot of money. But the general picture given by Colin of how the thing went is I think important; and with the qualifications which I've made I wouldn't dissent to it being a sustained part of the record. Thank you very much for letting me speak. I hope I might have a chance this afternoon as well on other matters.

KEMP

Thank you. We'll go over to Christopher Harvie.

HARVIE

I come at this point, slotted into otherwise relatively alien territory as a political historian. The reason is that I have to fly off to Edinburgh to give the last address of this millennium at the new Museum of Scotland. One of my more aggressive passages will be to ask, Why is there no treatment of the oil industry in an otherwise magnificent building? Instead, the twentieth century – and I am primarily an historian of twentieth century Scotland – is a post-modernist pick 'n mix. The Museum asked 365 people to nominate the object from the twentieth century which each of them wanted preserved in the Museum. North Sea oil does not figure in this *melange*.

Christopher Harvie, *Fool's gold: the story of North Sea Oil* (London: Hamilton, 1994).

No information available.

Philip Ziegler, *Wilson, the authorised life of Lord Wilson of Rievaulx* (London: Weidenfeld & Nicholson, 1993).

Austen Morgan, *Harold Wilson* (London: Pluto, 1992).

Ben Pimlott, *Harold Wilson* (London: HarperCollins, 1992).

Norman Davies, *The Isles* (London: Macmillan, 1999).

I might be described as a premature historian of North Sea oil because I was commissioned in 1991 by Hamish Hamilton and Channel 4 to do a book called *Fool's Gold*,* published in Autumn 1994, accompanying Denys Blakeway's three-part TV series *Wasted Windfall*.* I do not claim it to be more than an interim, and necessarily somewhat journalistic, account but it was an attempt to fill a huge hole in our political history. During the course of writing, I read three biographies of Harold Wilson: the authorised one by Philip Ziegler,* another by Austin Morgan,* and yet a third by Ben Pimlott.* In none of these was there mention of North Sea oil, despite Wilson's centrality to the business. This is something that implies a more general question. Why has such an enormous enterprise, on the same scale as the building of the railways in the nineteenth century, simply leaked out of British history? I reviewed quite recently in *The Independent* a book by Professor Norman Davies called *The Isles*,* a history of the British archipelago, in which oil gets a couple of sentences, and that's it.

This seems to raise issues not just about technology, or the jousting of companies and government, and the international implications. It can't be put down to conspiracies, or anything like that. But it may well be that our public culture no longer has the resources to appraise what is going on here. We note the Science Museum's imaginative attempt to cover energy questions, but we have not had any cognate discussion in the public press, except among dedicated specialists. It is a great pity that a journalist whom I interviewed, and for whom I had a great deal of respect, Frank Fraser of *The Scotsman*, is no longer here [he died earlier in 1999] because Frank

had forgotten more than any of us here will ever know about the oil business. Simply by talking to people like that in political bodies, the Scottish Council and the like, one achieved an enormous insight into how the industry operated.

People in the oil industry and in government have much of which they ought to be deeply proud: the dramatic technological advances achieved in, for example, positioning in the North Sea, or the work that was done in sub-surface exploration. The implications of computerisation and satellites working together revolutionised, at the edge of an extremely difficult field, the whole way in which future industry would be organised. If vast investment brought relatively few jobs, this was because the North Sea was the predecessor of the 'workerless factory' that we now can see taking shape in Germany. I work in Baden-Württemberg, having advised the government there on educational and regional affairs, and can realise how the efficiency of German technology encounters ever-greater difficulties in actually creating jobs. Our new factories are highly productive, and a lot of this comes from German observation of what was going on in the North Sea. It was far easier to get material on the technology of supply vessels, pipe-layers and other North Sea equipment in Germany than in Britain, except through contacts with people like Funkhouser or the late Sir Alistair Dunnett [Thomson/Occidental] who had experience of working within the industry itself.

I won't claim much for my own book; though it was on the whole well received: it is an attempt simply to set out the narrative within the political context. Because of the TV link it had to be written very, very fast, in what V.S. Pritchett, the writer, has called the 'determined stupor' of the novelist. And in terms of what it can convey to Alex Kemp's great project it is probably a pretty minimal affair – a Jim Hawkins' account of this particular *Treasure Island*. But do remember that the people who enabled you to explore the North Sea were the Stevensons, who built the northern lighthouses and were the forebears of Robert Louis Stevenson!

I was of course working inside the thirty-year period [when access to state papers is restricted] so I was very glad to be able to meet people like Alistair Dunnett and Tony Benn. Funkhouser's papers are particularly valuable, because he reported back to Texas Eastern and Ex-Governor John Connolly (with all his Intelligence connections) there. These papers are now in Aberdeen University Library. It is very rare to think of papers actually coming from America to Britain – particularly to Scotland – but these made up an important account from a very politicised observer of the North Sea field. I'll just leave it like that but remind you, of course, that oil remains, in terms of the discussions which will come up this afternoon, current politics. We have just had the three thousand redundancies at the Ardersier and Nigg Bay platform-building yards, and the implications of these closures for the future of the now delicate relationship between Scotland and the rest of Britain are thus significant.

KEMP

Christopher [Harvie], we know you have to leave. Before you go, for the benefit of the afternoon's discussion, could you very succinctly summarise why you believe that North Sea revenues have been wasted, so that, when we come to the afternoon, we've got your views on the record?

HARVIE

I suppose the economic 'catastrophe' quality of the North Sea oil episode was that its first production boom, 1978-82, coincided with two things. One was the Gulf War between Iraq and Iran, which knocked the place skywards. The second thing was Mrs Thatcher's venture into monetarism. How was she to restrict the money supply, except by cranking up the interest rate? But this, by inflating the pound, made it very attractive to international speculators (when I went to Germany the pound was worth nearly five Deutschemarks). The result, of course, by 1982 was a 20 per cent collapse in British manufacturing.

KEMP

So what should have happened to the money?

HARVIE

Well, we have to remember, in taking a general view of the 1970s, that it was very difficult for anyone to estimate what was going to happen. The decade had been inaugurated by the collapse of the Bretton Woods monetary system, Keynesian government-management links had gone, inflation hit the cost of exploration and exploitation, and then came the British balance of payments crisis in 1976. People subsequently realised that the International Monetary Fund [IMF] intervention had been to a great extent caused by the North Sea project, which required great imports of machinery and material to extract the oil, and triggered the balance-of-payments crisis. This meant that well into the 1980s, it became very, very risky to predict what would happen in the long run.

But oil's consequences were frequently discussed in Scotland. You may remember the controversy in 1978, which pitted Professor [Sir] Donal McKay against Christopher Smallwood, about what Scotland should do to prevent the petro-groat (or whatever) shooting through the roof. Arguments about foreign investment, the diversification of oil-related products, the development of different industrial sectors, and the like, were exercised in Scotland, but somehow this debate never transferred itself to England. Had such a debate occurred in the early years of the 1980s, Mrs Thatcher might have been much more pragmatic – she was after all an oil industry wife. But it – and indeed oil – are themes she doesn't deal with very much in her memoirs.* Had the estimating of oil money been tackled at that stage with a bit more circumspection, then I think we might have much more imaginative policies for investment, though not necessarily in the manufacturing sector.

Margaret Thatcher *The Downing Street Years* (London: HarperCollins, 1995).

KEMP

Thank you very much. Time is moving on and Peter Kassler hasn't had the opportunity to say his full piece.

KASSLER

Thank you Chairman. My full piece, which is quite short [*be not afraid*] is about the beginning of the story, the circumstances of the original investment in the North Sea. I happened to study geology up the road at Imperial College, where I did a Ph.D in Scottish hard-rock geology. What we were taught in the late 1950s was that there was a great debate about what type of rocks underlay the North Sea, the debate being about which sort of basement rocks (Moine schists or Lewisian gneiss) were there. The one thing that was very clear from the teaching was that there is no sedimentary basin under the North Sea [*indicating what a leap in the dark the first exploration was*].

I then joined Shell as an explorer, and subsequently worked as a petroleum economist evaluating exploration and production investment projects. The rule laid down by Shell management at the time for the ranking and screening of such projects was based on the concept that a barrel of crude oil was then worth US\$1.45/bbl fob Ras Tanura [*in Saudi Arabia*], and it cost another dollar to take it round to Rotterdam by tanker, totalling \$2.45/bbl delivered in north-west Europe. Therefore any oil that you wished to explore for or develop in the 1960s which could not be delivered in Rotterdam for US\$2.45/bbl or less was, on the face of it, uneconomical. Nevertheless, Shell, BP and other large companies had world-wide exploration programmes which were almost entirely uneconomical in those terms. I spent some time exploring for oil in France, where there was no hope of producing oil for US\$2.45/bbl if we ever found any, and we did not as it happened. I then worked in Oman and we did the same calculations, and that didn't work out either.

Much later, however, towards the end of my Shell career when I found myself in charge of planning, I came to have a better understanding of the discussions that had gone on in the 1960s and very early 1970s. The mainstream thinking at senior levels in the oil companies was that the oil price was going to continue to remain pretty constant and that the international industry was going to be able to remain in the Middle East [*as concession holders or something similar*]. There were those who felt insecure about that but they were probably in a minority. The forebodings Basil Butler alluded to a moment ago [*about rising political insecurity in the Middle East*] were there in the background, but not as strong as all that; and the reference price or 'planning value' of oil was kept at US\$2.45/bbl almost up to the time of the crisis and used for economic evaluations of policies and projects.

Towards the end of the 1960s, however, we had a very brilliant planner in Shell called Pierre Wack, who introduced scenario planning to the company. And one of the scenarios that his team offered for consideration was one of resource shortage of oil [*and increased price*]. There was furious debate about this in the senior management, some of whom found this scenario plausible and others not. But, in the end, Wack persuaded the management that it was worth considering the resource-scarcity idea as a possibility, something that might occur in the future.

As a result, Shell did much more exploration, anywhere outside the Gulf, than was really justified by any oil price that could reasonably be expected at the time. Regarding the motivation, I think that nowadays one would talk in terms of a 'licence to operate' or something like that. The real driving force was not so much (as I think Peter Odell suggested) that there was an expectation that prices would go up, nor that supplies would be restricted politically. There was, however, a feeling that, if these things really happened [*particularly the restriction of supplies*], it would be so awful that the Shells and BPs and other companies would never be allowed to do business freely again in the UK. So I think a lot of money was spent in ways that could not logically be justified in terms of a rate-of-return calculation [*to attempt to develop new oil supplies in politically safe locations outside the Middle East*], but it was spent anyway. And that continued into the early years of the North Sea, when the price started to go up.

That brings us back to the dialogue between Ian Henderson and the chair at the beginning of this meeting [*about what was really believed about reserves and economics when the development decisions were made*]. I happened to be in the Shell Economic Evaluation Department when calculations were being made on the primary development of the Brent field, for which Shell was the operator. My recollection is that we based these on an oil price assumed to be US\$7/bbl, even though the actual price had not reached that level at the time. As we now know, the investment costs of Brent and other fields were severely underestimated because people did not know about the risks and difficulties of the new technologies involved. Our bacon was saved, however, by the fact that prices did go much higher [*since Brent and other such fields needed prices about twice as high to make them profitable*], but it really was a leap in the dark. And it had much more to do with our 'licence to operate' than with any accountants' calculation of future outcomes.

KEMP

Thank you Peter [Kassler]. This session is about the investment environment and the investors' perspective in particular. We do want their perspective on the public policy issues. We've had on record some of the big policy issues already, but I would like somebody from an industry perspective to say a little about one other policy area which we haven't discussed, namely the presence of BNOG as a participant and co-licensee etc. How did that affect the investment perspective? Can some of our group here say a few words about this?

WILLIAMS

I'll say very briefly Mr Chairman it was an administrative nightmare for the industry, forming dozens of joint committees and so on; indeed a terrible headache.

KEMP

Would you like to elaborate a little bit on that.

WILLIAMS

It wasted so much of our time and I thought it was all very unfruitful. I really don't want to say any more as that sums it up completely as far as I'm concerned.

KEMP

Okay that's very concise. Peter Odell now wishes to comment.

ODELL

I would take the opposite point of view Mr Chairman, given that Britain had not done what I have suggested it should have done in terms of enhancing its knowledge and capabilities through an independent or semi-independent evaluative body. In its absence, the BNOC was a necessity at that time. It came in on the inside track with people who were recruited in terms of their professional expertise. Perhaps the main problem with BNOC was that its terms of reference were made much too narrow, so that it was unable to do what it ought to have done, that is, to have become an international company. One of the proposals I made, when I was working for the Department of Energy, was to advise Mr Benn that BNOC should go downstream and should buy the then on sale refinery of Gulf in Rotterdam, and so get itself out into the real world of oil, in the same way as happened in Norway. And although Norway's oil has had its ups and downs, it has, nevertheless, continued to be central to the country's success over the past 25 years. Norway realised, unlike this country, the importance of the commodity for its well-being. I think this confirms Professor Harvie's point that, as far as the UK is concerned, oil has simply become so common or garden it is no longer worth talking about. The fact that Norway elevated it to a very much more important part of its national awareness is, I think, in large part due to Statoil. BNOC could have done the same. And, had BNOC got its feet further under the table by 1979, then I think even after the change of government at that time it might well have survived much longer than it did. It is also worth remembering that it was Mrs Thatcher, in her first administration, who was responsible for increasing taxes on the companies. To that extent, the difference between successive Labour and Conservative governments was perhaps not so great as others suggest. She did, nevertheless, change her mind on the opening up of the North Sea, through a more favourable tax regime, and also by widening out the ability of companies to take concessions. She also got rid of that 'nuisance', as I think Dr Williams called it, of the bureaucracy of BNOC, which unhappily was not allowed to develop in the way it might have been allowed by another Labour government, to become the Statoil of this country; in those days they were being developed by the score around the world, but Britain stood apart – and has suffered the consequences of its inaction.

KEMP

Can I try and pin you down a little bit on that. You are eulogising Statoil. Is it something like, in other terminology, a national champion to increase the UK share of the activity, or what?

ODELL

Well, I think it had the technical aspect of being able to intervene and interfere in a way that government in this country had not done in terms of the decisions on how intensely to develop fields. We had argued what you put in depends on what you get out. The companies required a 20 per cent internal rate of return on their investment, or an 18 per cent, or a 15 per cent, much above the cost of money as far as governments and government entities were concerned. Had I been there for much longer then I think we would have had a more intensive development of the fields than we got in the early days, although more recently, of course, because of more technological developments, those more intensive developments have occurred. Secondly, I think it would have concentrated the mind of the British public on how important oil was, and it would have provided Britain's image, in terms of its success in oil and gas, in a way that the multinationals were never going to do. After all, as far as the multinationals were concerned, this is simply one of their areas of interest. And it wasn't up to them to justify what they were doing in the UK specifically or to elevate the UK specifically to the most important single developed in the world of oil. Without BNOG I think we lost that opportunity. And we lost opportunities in Europe. I think. And we lost opportunities in terms of the evolution of North Sea oil and gas over the period of the 1980s and the 18 years of Conservative rule.

KEMP

Colin Robinson wishes to comment.

ROBINSON

Yes, very briefly. I find it astonishing, after all the experience we have had of the inefficiency of state corporations, that Peter should think we should have had one in oil. What we had in oil, as George put it, was an administrative nightmare. It was neither one thing nor the other. It caused a lot of bureaucracy, a lot of difficulty, and it really didn't achieve anything at all during its period. If we had had what Peter wanted, it would have actually been far worse. We'd have had a state corporation in the oil industry which would have had all the kinds of problems we used to have with the nationalised corporations in this country. The market would have been even more politicised and we would have been far worse off than we were.

ODELL

Well, I wouldn't say we got what we wanted. Instead, we got a part-spotted, part-striped beast, instead of getting the real thing. And how can you say what you say in the light of the contrast between this country and Norway, in respect of the relative success of oil and gas policies in Norway compared with the UK?

BUTLER

In the very short lifetime of the Norwegian oil industry Statoil has lost two boards due to scandalous over-expenditure on projects which were uncontrolled just because they were spending tax payers' money in effect and not shareholders' money. If they had been

a private company those boards wouldn't have lasted half as long.

KEMP

Thank you very much. Can I have other comments?

BUTLER

I think BNOC would have been a splendid idea if Britain had been a banana republic, or a small country like Norway that had no native oil industry at all. But in Britain it was a complete and utter nonsense and, as George said, it was an administrative nightmare. It also did a huge amount of damage to the development of the oil industry. One of the things it did, which it was empowered to do, was to have a first refusal on all farm-ins or farm-outs. And this brought the whole process of farming-in to a complete standstill for a couple of years and undoubtedly delayed the development of the British oil industry in the North Sea. I can't see anything about it that was of any benefit to this country at all, frankly, and it was certainly very damaging to the oil industry and caused a lot of unnecessary confusion and administrative difficulty. What we needed was a very efficient petroleum directorate in the government, and that I'd go with absolutely. But a national oil company was nonsense. Also it couldn't get its act together. I remember vividly in connection with Sullem Voe, where it was represented in both the Ninian and the Brent group, it voted in opposite directions in the same meeting. It really was a nightmare.

KEMP

Can I have further comments?

PETER BROUGHTON

My name is Peter Broughton and I am with Phillips Petroleum Company. I do not have the high level perspective that a lot of the gentlemen here have, but I can speak from my own personal perspective of working firstly for the Burmah Oil Company, and then being forcibly changed to BNOC, which was a personal disaster. The process of forcibly changing over from Burmah Oil Company to BNOC meant a drastic redirection for a lot of other employees within the company: basically a competent technical group was torn apart. Secondly, I do not know how you want to describe it, but the Burmah Oil Company, at that time, actually owned 20 per cent of BP. For a company to be taken apart or torn away, in the fashion that it was, can only be described as being stolen, I think, from the shareholders.

KEMP

Does anyone else want to speak?

COLIN MacFARLANE

Colin MacFarlane, Strathclyde University. Can I ask why the oil companies had the perception that UK oil would not be nationalised if they were afraid of nationalisation in the Gulf?

ODELL

Perhaps, because they thought that it was a banana republic.

MacFARLANE

Edward Heath, Prime Minister 1970-74.

Edmund Dell, Labour Paymaster-General, March 1974 to April 1976; Secretary of State for Trade, April 1976 to November 1978.

One point that could be made was the extremely icy relationships between the oil companies and Edward Heath,* because it was reckoned that Heath was very much a person who knew the system and was a definitely hostile power. Heath did not forgive the oil companies for their behaviour during the winter of discontent. I think it was in one of the debates in the House of Commons they simply could go to the turn round and read out the Conservative gas policy, and that tallied with [Labour Minister Edmund] Dell's own policy.* So that I think that you have that situation that you are not simply dealing with a particular socialist enterprise, you are dealing with something that probably was consensual between the Heath and the subsequent Wilson and Callaghan governments about the state of the matter.

POSNER

Can I just make one point on this. I'm not very partisan on the BNOC question. I do think however that to-day's consensus, apart as usual from Peter Odell, that it was a disastrous stupidity, is leaning a little too far in one direction. Yes there were elements in which the UK government was a bit amateurish. We didn't have a strong, independent, well-equipped, well-staffed petroleum advisory outfit in government. We had some hard-working bureaucrats, with some experience, but they were middle-grade officers without an army. There were indeed several very big oil companies all operating in London but this was only a small part of their world empire. The need to keep the UK government sweet was not for them a major issue. Even so, I guess it probably would have worked out all right for the British consumer and tax payer without BNOC, and therefore the troubles and worries that BNOC produced for all you gentleman were a bit unnecessary. But at the time there was some fear that we would be 'below the salt' at this table. Ted Heath's worries about what was done to him by the big oil companies in the winter of discontent, was only part of that fear. To say that one should always listen to the advice of the big multinationals, and never to any other sort of advice, is like turkeys taking advice from the farmers and the butchers about how to prepare for Christmas. So that if you cast your minds back to those days, as I guess this sort of meeting should, back to the atmosphere of those far-off times, I believe it brought some reassurance to politicians and bureaucrats of varied political views to have an independent company out there, operating on their behalf and making a bit of a nuisance of itself. Perhaps BNOC was not wholly necessary, perhaps it was a mistake, but the argument is not all one way.

KEMP

We'll now have a contribution from Charles Henderson.

**CHARLES
HENDERSON**

I'm perhaps a little partial on this particular question and I welcome Michael's intervention on behalf of the BNOC. Certainly, in our perception, it was an essential means of acquiring within the

Department and for government a second opinion, an opinion that is not driven by international company interests. I can point to ways in which their advice and their insights did actually help formulate government policy in ways which were beneficial to the public at large. But whether or not that was the right solution or whether it would have been better to have strengthened the internal petroleum directorate capability of the department is an open question. I think that, philosophically, at the time, one has to bear in mind that the approach of the government and the Department of Energy towards public sector activities was to create public bodies which were at arms length independent, semi-independent from government, to carry out the public sector interests in an efficient manner. It was natural, it seemed to me, if you were looking for ways of getting public sector insight and public sector intervention, to create another public sector body like all those already in existence: British Coal, British Gas, the Atomic Energy Authority and so on. So I think there was a philosophical view which caused us to choose that particular route at that particular time.

KEMP

This session is concerned with the investment climate. From the investors we've heard what they thought of the BNOC and the investment climate. The investors are saying that BNOC made a negative contribution. Are you saying that the provision of technical expertise means that BNOC really had a positive effect on the investment climate?

**CHARLES
HENDERSON**

I don't think that is quite what I was saying. I think I was more saying that we were better able to protect our particular interests, the public sector's interests in that situation.

KEMP

On that note I think we should close for lunch.

The Development of North Sea Oil and Gas

Session II: Developing the Technology

Edited by Gillian Staerck

This witness seminar, organised by the Institute of Contemporary British History, was held at the Science Museum, London, on 11 December 1999. Participants in this second session included Dr Peter Broughton, Basil Butler, CBE, FEng., J. B. Cook, Dr Anthony Denton, Roger Dobson, Professor John Foster, Ian Henderson, Professor Colin Macfarlane, Dr Gavin McCrone, Professor Peter Odell, Michael Posner, Professor Adrian Todd. The seminar was chaired by Professor Alex Kemp.

ALEX KEMP

In this session we should discuss the technological challenges, the risks as perceived at the time, the nature of the achievements. We should also include in this session: the question of the opportunities that the North Sea gave to British industry; the responsiveness of UK industry to those opportunities, and the policies closely associated with that, particularly the role of the Offshore Suppliers Office (OSO) and the 'full and fair opportunity'; and, more generally, government policy towards developing the required technologies. In this session something on Scotland in particular would be appropriate, because a lot of the construction yards were there. Some of the policy issues relating to the development of the construction years would fit into this session. I will now proceed by asking Mr Cook to give us his views.

J. B. COOK

I was involved with Shell Expro from the beginning of 1977 until the end of 1988. So I did not see the very early stages, but I was there in the heat of the problems of the first generation. And I'll try to answer the four questions that we have on the paper. First, how responsive was British industry? Keen, but extraordinarily misinformed at the beginning. Firms simply had no idea of what the demands were in terms of quality, or response, and it took a long time for most people to get up to speed. Some did and succeeded very well indeed. Some fell by the wayside as far as the oil industry was concerned. As for the role of government policy on procurement for the OSO, I would certainly share my colleagues' negative comments on the British National Oil Corporation (BNOC) this morning, but the OSO on the whole was reasonable. They had a difficult job. I think what they did was fairly well balanced. And sometimes we did feel that it was slowing things down, making it difficult. But, I would say that, on the whole, they behaved very reasonably, and they promoted British industry in a proper way. I

think they were very hard on some of the supplying firms who didn't perform properly. And they didn't, in the long term, support people who were proving non-performers. I would not criticise the OSO.

Secondly, to what extent was it possible to build upon existing technology? I think we've got to begin by pointing out how very, very different the northern North Sea development was from anything previously encountered. We were used to incremental developments, where we put more investment in as we learn about the field. Typically on land, space is no consideration and most oil development had been in hot or temperate climates. None of those things applied in the North Sea. We had to make fundamental decisions about the complete development on very, very little knowledge. And what we had to develop, if you like, was a rubik cube with all the different facilities combined in three dimensions in an extraordinarily small volume, where weight was extremely important. If we made the facilities too big, we made them uneconomic. If we made them too small, we lost a great opportunity. So there was a quite unusual requirement to get everything right at the beginning.

Thirdly, how far was it possible to build on existing technology? Well as far as possible proven technology was used, if you look at a great many of the details, you can say that it was an extension of existing technology. But the combination was very, very far from existing technology. And it was that problem of relationships between all of the facilities, the difficulties of building things that had to be right at the very beginning and not subject to change, which made the difficulties. We all know the story of chaos theory and the butterfly and the weather changes: that is almost true of a North Sea platform. Changes that were made, perhaps because a gas/oil ratio changed or something like that, changes that were made in the design, would have quite unforeseen effects on the total development which led to tremendous changes right through the system. When you have a number of changes like that coming in, the result is that the whole programme becomes very difficult to manage, and I think that is probably the story of many of the first generation platforms. That the fundamental design was sound has been proved by the fact that most of the platforms are still in operation today. But there were so many details that needed changing and those changes, given that work had to be done offshore with all the support costs involved, made the final costs far, far higher than anyone had imagined. That was all accentuated by the limited lift capacity at that time, about a thousand tonnes I think in the very early days, so everything had to be designed to be lifted in not more than a thousand tonne units. That meant that it wasn't possible to assemble and test large units onshore, so a great deal of work had to be done offshore, perhaps a million man hours or more on the big platforms. And that was an enormous effort at the peak: in the Brent area I believe that the number of flight movements a day was about three quarters that at Heathrow. They were helicopters of

course, not big aircraft, but it was an enormous support operation. Developments in Computer Assisted Design (CAD) were not important in the early days because the capability of CAD didn't really exist for the size of project involved. In later years, of course, CAD has been enormously helpful in eliminating the kind of errors, such as misfits, that were such a problem in the early stages. We are asked which firms were principal innovators. Many firms made a contribution, but I would name just one, the Heerema Company. I think we all owe an enormous amount to Heerema for developing their heavy lift barges. They took a great risk in developing those barges and they operated them extremely well. We all owe a great deal to them: much more work could be done ashore quickly, cheaply and safely, as the lift capacity went up to 3,000 tonnes, and eventually over 10,000 tonnes. Financial considerations, of course, did have an effect on the engineering process. As in any project we were looking for value for money, consistent with the best practice and with safety. I think that is true of all of the major operators. As we are writing contemporary history, I have to say that it was not true of every operator. I remember one engineering design contractor saying to me, in some distress, that the brief from a small operator, no longer in business in the North Sea I'm glad to say, was to design the cheapest platform that would be legal. The engineering design contractor and I thought that was dreadful, but that was the brief.

We are asked how far was the engineering achievement an international effort? It was very international on both the design side and the equipment side. There were numerous pieces of equipment that at that time were not made in the UK, large compressors for example. What effects did the North Sea development have on the engineering industry? I think we can say that it greatly increased the capability of both the design and some parts of the construction industry. The demands of the oil industry, I think, brought a lot of greater capability into the design contractors, and they have used that in other fields apart from oil. In chemicals, even in pharmaceuticals and in defence, they have been able to broaden out a great deal using the capability that they developed in the oil industry and the better equipment suppliers have transformed themselves. To give just one example: British Steel. When we first dealt with them at the end of the 1970s it was a sad business. They never met deliveries, they never met specifications, and they were a disaster area for customers. But they transformed themselves and by the mid-1980s they were a world competitive company, delivering very good products, at a good price, and on time. It was a transformation. Others did the same, but some other firms, on both the manufacturing and the design side, just found it was all too difficult and it was easier making a living doing something else, because there's no doubt the oil industry is a demanding customer. Thank you.

KEMP

Thank you. Can I ask you to what extent were we at the frontiers of technology when we got into central and northern waters? Can I also press you on the question of the cost overrides, which were a feature in the early fields in the northern waters? To what or to whom do you point for the cost escalation?

COOK

I'm not going to blame the butterfly for flapping its wings, but seriously it was almost that sort of thing. Small things that didn't fit: pieces of pipe work in one module didn't match up with pieces of pipe work in another module. Perhaps a gas/oil ratio changed; a whole host of things. When you combine the effect of all these changes together it had an extremely disorganising effect. I would not put the blame on constructors or designers primarily, or the original oil company specifiers. We were all finding our way. And I think none of us had a complete understanding of how disastrous it is to make a lot of changes.

KEMP

Thank you very much. I now invite comments from others.

JOHN FOSTER

Can I maybe come in. In 1973 one of Statoil's great disasters – I think you referred to it this morning – was its relationship with Brown and Root. The report said that Statoil effectively had been ripped off by Brown and Root. I was wondering how far that relationship between a company and a contractor, in terms of overpricing, as was claimed by the investigation committee in Norway, also did apply to the very similar 80 per cent average overruns between 1972 and 1978 in Britain?

COOK

No, I don't think we ever felt we were being ripped off by the contractors.

FOSTER

Did they behave differently in Britain from how they did in the Norwegian circumstance?

COOK

I have no knowledge of how they behaved in Norway. I have no knowledge of how they were managed by the client in Norway. But I would have no complaint about the contractors. Of course they made a profit from the extra work, but there's nothing wrong in that, they weren't inventing work.

PETER BROUGHTON

Can I say one thing to put things a little bit more in perspective. If you take the early 1970s, there was definitely a big rush. And I've heard it said by many people that there was a rush for self sufficiency so that we could organise ourselves better later on. I think this may have compounded the business on costs.

IAN HENDERSON

Perhaps I can come in as well, having been there in the early days

of the Brent field. I feel partially responsible. We were all to blame for cost overruns. There were all sorts of reasons. Many of them have already been mentioned. The trouble we had with designers in the UK was because they could not believe how little we knew. You design upstream topside facilities on very little knowledge. It's the knowledge that comes out of three, four or maybe five wells on gas/oil ratios, on the amount of oil actually they get. There are tremendous variations in the fluidity of gas which affects what you have to do with it. You therefore design fairly globally and, if people try to design very tight and then things change, you get into the situation that Brian [Cook] talked about.

How responsive were British industries to the opportunities? Initially, not at all. If you look at the southern North Sea platforms, none of the southern North Sea structures in the first batch were built in the UK. I think some of the topsides were, but many of the topsides were built in the States. Most of the structures were built in Europe, in Holland, because British industry at that time didn't see this as being a very big challenge, didn't see it as being a long term exercise and wasn't prepared to put in the investment to create the yards. That changed as we moved into the northern North Sea. One of our problems was the technology. We thought we were taking another step forward, when we went into the northern North Sea. We were just going into rather deeper water, but in reality it was a quantum jump. There's nothing on a northern North Sea platform that had not been done previously somewhere else, but it had never all been done in one place, and one very small place at that. These platforms look enormous, but they are really very small when you think what's on them, and that was a major challenge. The other thing that few people in the industry were used to, and certainly in our company very few people were used to, was working in that sort of hostile climate. We looked at the weather there and we said, 'You can't have open modules, because we'll never get operators to be able to walk around in modules in the sort of weather you get'. So we went into totally enclosed modules, and then we had the major problems of ventilation, air conditioning, getting the gas out when there's a gas leak, and so on. And going into the northern North Sea, of course, the new technology was concrete platforms; and these have tremendous advantages. Brian [Cook] mentioned the fact that, at that stage, we only had relatively small lift barges, which could lift 800 to 1000 tonnes perhaps. But when you go with a concrete platform you could put all the facilities on the deck inshore and then float the whole thing out to sea. Marvellous; the best thing since sliced bread. And not only that, you've got storage in it. You can use the storage tanks for de-watering purposes. You can do everything with a concrete platform. As a result of which, of course, you end up not quite doing nothing, but doing a lot of things not very well. When we took out Brent Bravo, we planned to have the modules already installed. The modules had been built elsewhere, to be shipped into Stavanger (Norway), put on the top of the platform, and hooked

up. That never actually got going because of design changes resulting from changes in handling the gas. We had to plan for big gas compressors and what have you. We weren't able to put them all on at the beginning because we didn't have them. We didn't have the design at the time we moved the platform out. So you had to allow for moving things around on the platform and those big decks. They look enormous. They have ten or twenty foot deep beams, but they actually flex when you move modules around on them. And this wasn't realised until fairly late in the game. So all the small pieces that had been built and taken to Stavanger to be installed there, actually had to be changed. We ended up building those offshore. Now maybe I'll upset Basil [Butler], but I don't believe that during the hook-up of Brent Bravo we ever found more work in a week than we did then, although we got very close to it. But I do believe there was a period in Forties [oil field], when more work was being found in a week than was actually being done, and we were actually going backwards in programme. I had the exciting experience every week of trying to explain to my boss, and Esso's boss as well, why the completion date had gone out. There were just so many things involved that we hadn't really grasped: we hadn't really understood. And when we went out with that platform we had all these spool pieces, and somebody said, 'We'd better put them on the platform because that'll save supply-boat time'. So we piled them on the platform, the result of which was, of course, that all those you wanted first were at the bottom, and all those you wanted last were at the top. So there were all sorts of reasons why costs spiralled. Referring to the comment I made this morning, in many ways we were saved by the fact that the oil price went up, because, if we look at the original economics of Brent, and the final cost of Brent, there's no way that we would have made that investment.

The other interesting comment that Brian [Cook] made was when he talked about Hereema, 'the good British company' Hereema. Our company made a lot of effort to try to persuade British industry to create a British construction barge or a British lay barge, with total lack of success. Why? Because there just wasn't that belief in the UK that this was something that would, perhaps, make money in the longer term. And as Brian [Cook] says, Peter Hereema said, 'I'm going to build one. I'm going to build these barges. I'm going to build bigger barges', as a result of which they probably made quite a lot of money.

I think the OSO did, indeed, become fairly well balanced. But, they weren't that well balanced at the beginning. Which I suppose is fair enough, but it does make life very difficult when you go out for quotations, and you then have to send your quotations to somebody who 'phones up a British supplier and says, 'Hey, you're not going to get this job if you don't reduce your price'. So, they'd reduce the price, and then we'd be told that we had no reason not to take the British company, although we didn't believe that they could actually deliver. And that was another contributing factor.

We were pushed into ordering equipment that, at the end of the day, didn't get delivered on time because the price had been cut too fine by the supplier in order to get the job. Not every British company, of course. There certainly are many fine examples of entrepreneurial British engineering and expertise.

One other problem we got into was, of course, the weather window, when we had to lift things. You could only do it at certain times of the year. And this of course was known. It was known, let's face it, to the work forces. It was known, 'By golly it's going to cost these companies a lot of money if they don't get this thing finished in order to get it out during the weather window, and therefore they can be held to ransom'. That happened on a number of occasions. Okay, we argue it was our own fault for getting into the situation where that was a possibility. But it certainly did happen, and certainly did not assist in holding costs down.

KEMP

I wondered if I could ask you to comment on your remark, made just a few minutes ago, that the early rush to get first oil, self-sufficiency and all that, had a significant effect on how costs went? Contractors have said to me that they could have delivered the work more cheaply had they been given a bit more time, but they were pressurised to get it done earlier and so their overtime and so on raised the costs. You, of course, would have perhaps been pressurised by others to get production on stream, to save the balance of payments and so on. Did that affect you?

HENDERSON

Oh yes, certainly. I mean, when you were putting in enormous front-end expenditure, you are looking to try to get some return as soon as you can, so undoubtedly you get pressures. I mean, we were designing six northern North Sea platforms all at the same time, and with a relatively small team. But there was a tremendous push, and that creates errors when you have to go ahead using design information before you've really got it pinned down. You can say, 'Well then, fair enough, you've got to go ahead and make changes later.' But, the changes later become fairly horrendous. So yes, I think the push came as much from inside the companies, to get some return, as it did from outside. My ex-boss is looking at me with a beady eye.

ROGER DOBSON

Can I comment on that last point?

KEMP

Yes, okay.

DOBSON

I am Roger Dobson. I was not with the Institution of Civil Engineers at that time. I was working for Beditel Limited and, during that period, I was also Chairman of the Energy Industries Council. I think the points made so far about the push for early production are very important. Certainly, with the early jobs that we worked

on, all the emphasis was on getting something out to the field as quickly as we could. And the big change that took place in the industry was the increased lifting capacity that allowed larger modules to be shipped out. When we put our first project out, which was the Piper Project, at that time the world record for a lift was 500 tonnes, and the last project I was associated with had modules of 12,000 tonnes. The difference that this increase in capacity had on the quality of the work we shipped out in relation to the hook-up was very important indeed. In the initial years the push was all on time, and cost wasn't so important, but I think the point made about changes is vital.

We were one of the first contractors to use CAD as a standard design tool. Our greatest success with CAD came when we had a claim from one of the fabricators because they hadn't had any clashes at all on the work on the module, except for one instrument strong back that had been put in by hand at a later stage. They said they had allowed for this additional work to resolve clashes, and therefore could they have some more money. But when you are talking about the impact of CAD in the early stages, the greatest impact was in terms of the computer analysis and design because, in working in this new frontier, a lot of the design calculation techniques with the structures were right at the cutting edge. It was not state-of-the-practice, it was state-of-the-art, and right up at the very cutting edge of the development of analytical techniques. So I think that, in looking at this area, an appreciation of some of the design problems is important. For instance, one of the things that came out in the early platforms was the impact of fatigue, the failures of structural elements due to fatigue and the development of new techniques to repair the structures. And I think that this is another area where it was not widely appreciated how important were the subsequent inspection and repairs. The repairs that were carried out on the platforms and a lot of the techniques that were developed in the North Sea were new to the industry.

And if I can be allowed to continue, I sat at the other end of the balance in my dealings with the OSO and for a while I had the unique experience of being the only person in John D'Ancona's Black Box on the Balmoral project. Despite the best efforts of the OSO, we had to award the contract for the building of the platform to Gothenburg, Sweden, because we could not get any guarantees whatsoever on delivery from British yards. We faced a very large claim if we were late. In the event, Balmoral went on stream about two months early and it is the only time that I have ever been to a client with a list of claims to be told, 'Don't worry about that, we've paid them all already in terms of production from the early connections'.

KEMP

Okay, thank you

ANTHONY DENTON

Yes well I'm Tony Denton, I'm from Noble Denton International

and my background has been very much in the transportation, placement and general marine operations in the North Sea. And I was there on day one when we put the first platform in so I've seen a bit of it. Just to pick up one or two points, Chairman, from the list provided. To what extent was it possible to build upon existing technology? I would have said there was no other option. In the very first instance we had no drilling rigs. We had to bring them in and that meant bringing them over the Atlantic, which created a first in itself and required a whole step-up in technique there. And, of course, as has already been mentioned, we took full use of the fact that the use of the powered jacket had been around for some time and was a well-established procedure. And that was certainly put to good use.

What were the principal engineering problems? Again, I look at it from the maritime point of view. The first problem was that the North Sea environment is a quantum step up from anything else that we'd worked in. And that was recognised in terms of the maximum criteria that would have been applied in design. But many, many people just failed to recognise that it was a massive step up in the ability or inability to work at sea. And that was a big driver in many areas, which meant that the problems that had to be overcome involved getting out to sea with this equipment (which was generally built on its side). Later on, the platforms had to be put in vertically.

The next question was the sheer survival at sea. The mobile offshore drilling platforms that were brought in were designed for more benign areas, and there was a massive question mark about their ability to survive. That question mark rumbled on for many, many years, and it rumbles on today. And, of course, the environment meant that construction at sea had to be kept to a minimum. This has already been mentioned. But, when it was done, it required the development of special equipment and techniques. The North Sea was, therefore, a driving force in developing those techniques and equipment. And, referring again to Hereema, I would support everything that's been said about their contribution, particularly in the way they managed to reduce the lost weather windows, or perhaps rather increase the available weather window. But I would also mention another problem that the North Sea threw up, which we really hadn't met elsewhere, was that of fatigue. And fatigue is a major problem. It gave tremendous problems to the drilling contractors and it took an awful lot to resolve them, including the junking of the old platforms and the use of new ones with better quality steel. Just turning quickly to other principle innovators, I would say Norwegian contractors were [noteworthy], because they were the ones who actually led in the concrete area. And they certainly led in the procedure for deck emplacement, which lets face it involved immersing their structure to 99.6 per cent, which was unthinkable but yet was done.

And that leads me to my final point, and that is, when we turn to financial considerations, what effect did financial considerations

have on the engineering process? The big factor to consider that may not have been considered so far is that of insurance. Most people working in the North Sea would seek to buy insurance. But, in the case of drawing contractors, it was 'No insurance, no activity, thank you very much.' But their bankers wouldn't go for that. And I think, therefore, that the need to buy insurance had a beneficial effect upon the engineering process because, effectively, it invited the underwriters to get involved and put a brake on the corner-cutting that was always there. I think, therefore, they had a contribution in that department.

FOSTER

Could I ask a question of the last speaker? You mention that one major area of innovation was the Norwegian firms using concrete technologies. That raises a much bigger question that in many ways is the fundamental one. This is: Why Norway emerged from the 1970s, certainly the 1980s, with a very much stronger engineering industry devoted to oil services than anything that developed within Britain? This was so, even though the Norwegians started off with, not exactly a blank sheet, but certainly a much weaker engineering industry, and with other industries that would be contributing which were also weaker and with no domestic oil industry of their own.

DENTON

I think possibly it may be because the country's population which is small enough to let a certain degree of communication take place that points towards one particular group of constructors, and even universities, being made to consider the fact that, 'It is your job, get on with it'. And I think that's where we saw a lot of beneficial focus in one spot, rather than a dissipation of effort.

BROUGHTON

I am with Phillips Petroleum Company. I will try to address the questions that were provided on the briefing note for session two. Whilst session one dealt with how the oil companies generally behaved, how they organised themselves, oil recovery rates and percentages, and other reservoir problems, the second session appears to be governed by the facilitators and the building blocks involved in actually developing the North Sea.

If you take a more general or economic perspective when you look back over the last 50 years to where Britain was at the end of the war, we were actually bankrupt. We went through a long period of socialism, and quasi-socialism and it was very difficult for industrial companies to make money. In fact it was frowned upon. Even in my lifetime, I remember things like windfall tax and other economic constraints like that. So a lot of international companies were finding it hard and a struggle to make ends meet and make something out of it all. Having said that, I will address the four questions.

British industry, in my view, was slow to respond to the opportunities of North Sea development as it did not have the confidence or

the financial strength to invest in the new technology that was required to establish a long-term, dominant position. We have heard comments here about the effectiveness of some Norwegian companies. The large UK companies/contractors thought they had a captive market supported by a buy-British ethos, and therefore teamed up with foreign-owned, experienced, offshore companies rather than developing their own individual technology themselves. As an example, you could quote the Brown and Root/Wimpey joint venture.

The second question, the North Sea would never have been developed without relying on existing offshore technology principally from the Gulf of Mexico. I think that is an established fact. We have heard mention of existing designs of steel structures and topsides facilities and all the necessary building blocks that had to be extended in concept in order to be made stronger to suit the environmental conditions of the North Sea.

The business about concrete substructures has been mentioned before. There was a period in time when there was a shortfall of steel supplies and the necessary fabrication facilities, in particular in the mid-to-late-1970s. This encouraged the development of concrete platforms, and these forms of structure became viable alternatives.

The development of sub-sea drilling and production technology, such as the use of pre-drilled templates and remote sub-sea wells, improved the overall development schedule and increased the reservoir coverage of centrally located platforms. As mentioned before, one of the questions referred to the use of CAD. It was the whole development of computer technology design, and CAD, which made a big difference to how we managed and engineered the work. All of this was a logical development of improving design, performance and efficiency. Some of the principle innovators were the American companies, such as Brown and Root, and McDermott in the early 1970s. Then there were Norwegian companies, such as Aker, and Kvaerner; French companies, such as Comex, Coflexip, and Doris Engineering; the previously mentioned Dutch company Hereema; and Italian companies such as Snamprogetti, Tecnomari, and Saipem. Hereema were not the only builders of large offshore construction vessels and they did do it as a spur-of-the-moment activity. They were heavily involved in construction in South America before returning to the North Sea, so Hereema were involved in a long process for the development of large offshore construction vessels. The lack of British investment, management, and understanding and dedication to the offshore oil and gas industry has led, unfortunately in my view, to the present poor state of British involvement where we are now, both in the North Sea and, more importantly, internationally. The following companies also had opportunities to become major players, but either dropped out or declined at some stage in the overall process. These were, for example, the big contractors that were expected by the oil companies to take a lead role: companies like Wimpey,

Laing, McAlpine, Howard, Taylor Woodrow, Cleveland Bridge, Sea and Land. To various degrees they struggled in the early stages and, from the oil companies' perspective, did not seem to come forward and to deliver all the goods. In fact, some deliberately dropped out of the process. So we are left with names of indigenous companies like, for example, the Wood Group, the Ove Arup Partnership, the Amec Group and the Weir Group, and companies like Rolls Royce (Turbines), to name but a few. But it is a very limited source of indigenous companies that are now doing the building blocks for us, and I think that is a sad state of affairs. Some of the other specialist companies, which have developed within the process, have been taken over by foreign companies, and these are companies like J.P. Kenny, Granhern, Humphreys and Glasgow, and Genesis. They individually developed niche markets in some of the engineering work, and they have sadly been taken over by foreign companies. As has been mentioned before, you can contrast this with what has happened in Norway, where there are companies like Aker, Kvaerner, Kongsberg, with Kongsberg being a company doing virtually half the sub-sea technology work throughout the world, in this international world market.

If we move on to item three, all offshore design and construction was financially competitive and new concepts only survived by achieving cost or schedule improvements. Clear savings were necessary to balance the risks of unproven technology. Land-based technology had little direct effect on the offshore industry development.

Coming to question four, the major engineering achievements were developed, in the main, by foreign-owned companies through their UK subsidiaries. They recruited able UK engineers and provided the finance in order to develop their UK offshore capability. We now appear to have reached the peak, or gone past the peak, in the North Sea development. We now look at what is left, at what is left in terms of the building blocks, and the status of the indigenous capability is not really the desirable situation we would like to be in. The resulting predominantly UK-trained workforce in these major companies provided the opportunity for UK suppliers to get a greater share of the offshore market, and we are now looking at a world market where I believe our indigenous companies are struggling to achieve any dominance. That, unfortunately, is the sad state of affairs that we are in at the moment.

HENDERSON

Just on your last point about British engineers, I was in Houston quite recently, with McDermott, and I was intrigued to note that, for the project I was particularly looking at, all the lead engineers were British. They are not in British companies. They are working for an American company, McDermot.

DENTON

Could I add to that, because my experience of travelling around the world is that the British engineering expertise, expressed through

its engineers, permeates the whole world. You can find what Ian [Henderson] has just said repeated in many parts of the world. So there has been a benefit in that respect. Indeed I think a lot of service companies, that is engineering support companies, in the very specialised areas have benefited. Certainly I would agree with everything that's been said about the fact that our manufacturers, having picked up the ball, have not run as hard or as far as we've all hoped.

FOSTER

The New Penguin History of Scotland, R. A. Houston, W. W. J. Knox (eds.) (London: Allen Lane, 2001)

Charles Woolfson, *Paying for the piper: capital and labour in Britain's offshore oil industry* (London: Mansell, 1996).

Department of Energy, *The Offshore Energy Technology Board: Strategy for Research and Development*, Energy Paper No. 8 (London: HMSO, 1976)

Sir H. Wilson, *The Financing of North Sea Oil*, Committee to Review the Functioning of Financial Institutions: Research Report No.2 (London: HMSO, 1978).

I think if I can come in and make my intervention now, it might fit in quite well, because I agree with quite a lot of what has just been said. Also I can look at it from a quite different perspective. I'm an historian, and I'm not an expert witness. I'm a colleague of Chris Harvie in writing the *Penguin History of Scotland*,* and I also was a colleague of Charles Woolfson in producing *Paying For The Piper** two or three years ago. I'd like to take up this issue of the wasted windfall because I think there were two sides to that, and not just one. One will be looked at in the next session, that is, the deregulation of capital, the pound as a petro-currency, the export of capital from 1979, and de-industrialisation. That was certainly one major consequence of the way in which the North Sea was exploited. But the other one was what we've just been discussing. This is the failure to develop a British engineering and oil service industry compared to Norway's. I've got here a very tattered copy of *The Economist* from 25 years ago: the 1975 Survey of North Sea Oil, which makes all the points that have just been made. None of the pipes that had been laid to that point in the North Sea had been laid by British companies. They were made by Dutch companies and other companies, but none by British companies. Only a minute percentage of the drilling rigs had been produced in Britain by 1975. Already at that stage in 1975, *The Economist* was making the comparison with Norway. So it is a fundamental question and I think my colleague here on my right has to some extent put his finger on this problem. This is the issue of fast development. When you look at the Report of the Department of Energy Committee in 1976, examining the problems of the offshore supply industry, the thing they pointed to was the degree to which there had been no leadtime for the British engineering firms.* Norman Smith also, the first director I think of the Offshore Suppliers Office, came to the same conclusion. Certainly it was the position of the Wilson Committee in 1978.* That's not the only explanation. But I think it is a major explanation.

Then you have to go back to: Why was the development so fast? That leads us to an issue not explored enough in this morning's session. This is the negotiations between American and British governments and between US and UK oil companies in 1970/71/72 about how this oil bonanza was going to be brought on-stream and the nature of the diplomatic context surrounding those discussions. For instance, the 1972 Report for the merchant bank Casenove on the Financing of the North Sea, estimated that the

Casenove & Co. *The North Sea: The Search for Oil and Gas and the Implications for Investment* (London: Casenove, 1972).

North Sea would be coming fully on-line in ten years.* Their estimate was that, when it came on-stream, the impact would be to knock a bit of the bottom out of the Organisation of Petroleum Exporting Countries (OPEC) market. Its assumption was that you had to get as much oil out as you could before about 1982/83/84 because then the price would go down. So there was a time limit. If you go back to the assumptions of the American government, and you could point to discussions way back in the 1960s, key among them was the need to have control over oil export markets across the world, and contingency planning for what would happen if the wave of nationalisation within the Middle East and Mediterranean was to spread. Now, within these US government concerns, North Sea oil was seen to have an immensely important potential. The cash that was necessary to get the oil out was far beyond anything the British oil companies or the British government could actually put their hands on. Something like 60 per cent eventually came from America. Now in those circumstances, within that time horizon and the need to get the oil out quickly, fast development was inevitable. That has to be contrasted with Norway where they had quite different assumptions. In Norway, the government insisted on depletion controls from 1975, and from 1975, after their poor experiences with contractors, they were insisting on levels of partnership and technology transfer with Norwegian firms that could have been introduced in the British sector, but were not. In Norway also you had major state companies, like Statoil and NorskHydro, whose policy was to some extent to provide the custom for Norwegian supply companies. I'm quite sure that, if you hadn't had that pattern of national ownership of oil extraction in Norway, you wouldn't have had quite such a fast development of the Norwegian supply companies. The point about concentration is an important one, but what was critical was the planned environment. Those are the main points I wanted to make.

But there is a final comment. In 1992/93, the UK oil industry introduced its Cost Reduction Initiative in the North Sea. Its objective was to secure a completely new type of technological culture and also a new industrial relations culture. In this process there was quite a considerable criticism of the kind of culture that had been brought by the American companies in the 1970s. This was the highly competitive, 'If we didn't invent it, it is no good' attitude to technology and the antagonistic, anti-trade union industrial relations culture. Now that culture, which I would say was not particularly helpful for technological development in British firms in the 1970s and 1980s, goes back to this period 1971/72. And that is something that one has to look at very, very carefully when one is discussing why Britain didn't develop at the same technological levels as Norway or France.

COOK

May I just comment on that, as somebody who was involved in some of the industrial relations problems. To blame the Americans

for the dreadful conditions that we had in the UK strikes me as quite comical.

FOSTER

Department of Trade and Industry,
*Report of the Working Group on the
Competitiveness of the UKCS* (Lon-
don: HMSO, February 1993)

CRINE Secretariat, *Cost Reduction
Initiative for the New Era Report*
(London: St. Paul's Press, 1993).

Lord Cullen, *Public Inquiry into the
Piper Alpha Disaster* (London,
HMSO, 1990)

I think there's a different perspective on industrial relations here. You're looking at it from the point of view of employers and I might be looking at it from the point of view of labour. There was no trade union recognition across a lot of the North Sea, and you didn't, as a result of that, have the same kind of health and safety regulations as those existing onshore. This was the analysis in 1993 by the DTI Working Party,* the CRINE initiative* and Lord Cullen's Report* slightly before. It is an analysis that I think has some weight. I don't think you can dismiss it out of hand.

BASIL BUTLER

There are several points I'd like to make, if I could. On industrial relations fairly quickly, I don't think the Americans had anything to do with it. The problems were of our own making. Industrial relations in this country, and the incompetence of British management, were to blame. The part of North Sea development where I was particularly involved with was the Sullom Voe development in Shetland. This was a totally unionised operation, closed shop operation in fact, where there were almost no industrial relations problem at all. In fact we had to work awfully hard at it. It was a very bad time in British industrial relations which was nothing at all to do with the Americans.

Can I just go back to one or two other points that were mentioned, about the costs of development? I think what everybody underestimated in the companies was the cost of employing manpower offshore. Because the amount of accommodation on a platform was very limited, and when you were in the construction hook-up phase on a platform you needed an awful lot of people, to try to fly them out by helicopter every day was not only expensive, it was very time consuming. It meant that the men actually had a very short productive time on the platform. And then, of course, companies moved to trying to have accommodation ships out there, and even they had a problem because, unless the weather was good, you were still faced with the problem of transporting people by helicopter between the vessel and the platform. So that was a vastly expensive operation, which I think we all very much underestimated.

The other point that's been mentioned was the problem of insufficient design time, and this is undoubtedly a contributory factor to the cost. And one has to remember the situation at the time, where the government of the day of whatever colour was very keen to get production going virtually at all costs. I found myself in charge of building Sullom Voe and I was presented with this problem. We had contractors on site. We were building things, but we hadn't actually designed the place yet. We had to design it as we went along. There was no way I could turn round to Tony Benn, who was then Secretary of State for Energy,* and say to him I'm going

Tony Benn was the Labour government's Secretary of State for Energy from June 1975 to May 1979.

to shut this thing down for two years and complete the design, and we'll get a much better job at the end. I mean, I'd have been run off very quickly indeed if I'd tried to do that. We had to do the best we could, which was to build the thing quickly and design it as we went along. That's not a great way of running an engineering project, but it was inevitable at that time.

Talking of OSO, very briefly, I agree generally with the comments that have been made about OSO. We had our problems, teething problems, with them at the beginning, but we came to understand each other better as time went on. But, when they started to interfere in overseas operations, then it got very difficult. And I found myself involved in a development in Norway where OSO was convinced that every thing that went on the Norwegian sector should emanate from Britain and, oddly enough, the Norwegians had a slightly different idea. And we ended up in a stand-up fight on that. And I didn't much like it when OSO actually made threats at us if we didn't use British equipment. But that's a long story.

Let me just mention one of the areas which I don't think has been covered, and that is the total failure of British shipbuilding to cope with what was required. And it's very unfortunate because British shipbuilders, in the shape of Scott Lithgow for instance, were given more or less *carte blanche* to build equipment for the British offshore industry. I'm talking of rigs and standby vessels and so on, like the Iolair and so forth. And they failed miserably in doing that. They built one or two rigs and I have vivid memories that we ordered two Sedco 700 series rigs at the same time. They were identical rigs, one from Scott Lithgow and the other from Korea. The Scott Lithgow rig was very good but it came out two years after the one that had been built in Korea, which wasn't exactly very helpful. And it's amazing to me that, although we had this industry right on our doorstep, most of the big drilling rigs were built, in fact, in Finland of all places. And why on earth British ship builders could never have got their act together and done a decent job with the industry here I shall never understand.

COLIN MacFARLANE

Can I come in, Alex, because I can probably say something on that and some earlier discussions? The first time I was involved in the offshore industry was with P&O Energy in the middle 1970s. I had come from the marine side, as had Tony Denton, and I'd worked for Scott Lithgows as well before entering BP. My remarks can be grouped under risk and return, cowboys, ignorance, and to some extent favouritism. Certainly, when P & O tried to get involved in the offshore industry, they had major money available, but they found that they couldn't really get in. We've heard the oil industry talking about the contractors not being able to fulfil the requirements. The requirements kept changing, and everything was demanded right now, so there didn't seem to be a good return. The impression from P&O, and I am only giving an impression because I was a young engineer at the time, was that it just wasn't worth it.

The Big Country was a 1958 film, starring Gregory Peck and Jean Simmons, concerning a fight over the ownership of land and water. It did not actually concern oil.

The returns weren't worth the risks that we were biting into. It was interesting in the early 1990s, when the partnership ideas came along, that a lot of the contractors were saying the same thing, in the early days of the partnership agreements, 'Hey we're getting all the risk, we're not getting all the returns here'. There was certainly another side to it, which was purely technical. We were speaking a different language. We imagined that the oil companies were populated by cowboys who used a different language. When you phoned up, you heard the 'Big Country'* playing in the background, and certainly when they came to specifications they used different words from us. It was very difficult to cope with them coming along and talking about a formula when we called it by a different name, and simple things like that. So we were into a different world and it just wasn't worth changing. I think companies like Weirs probably made the same decision: that they didn't want to get into the offshore industry in a big way. Another company I dealt with was Dunlop. They wanted to get in, but couldn't get any help to get in; whereas Coflexip were given their technology from a French national research organisation and have developed very well. So I think the traditional British industry did not see the returns out of it, the risks were too much for them. The companies that were into the oil patch, the Brown and Roots of the world, could cope with the oil industry, the operators. They'd lived with them for many, many years and so they were quite happy; they talked the same language. I don't think British shipping companies spoke the same language as the oil industry, and language is surprisingly important in commerce.

KEMP

Thank you. I'd like to bring in a different perspective, and so I would like to ask Adrian Todd to say something.

ADRIAN TODD

I am Adrian Todd from the Department of Petroleum Engineering at Heriot-Watt University, Edinburgh, having been involved since it was established in October 1975. The formation of this postgraduate centre in Petroleum Engineering, with funds for a building from the Department of Energy, followed a recommendation in an inter-departmental working report in 1973 by the Department of Employment on 'Education and Training for Offshore Development'. This ETOD report was passed on to me by Professor Tom Patten, one of the visionaries in the 1970s of the exciting potential for the UK in the exploitation of its offshore hydrocarbon reserves. The report recognized that there was going to be a serious skills shortage in the UK, ranging from technicians to professional engineers. The issue of skills shortages has not been a topic of our reflections today but, in the 1970s, it was a serious concern. During the growth of the UK fields in the 1970s and 1980s, there was a recession in the UK and many engineering graduates, who are now holding senior positions in this industry, were not able to get employment in the discipline they had selected three or four years

previously when leaving school. Positions were not available in conventional engineering disciplines, because of the lack of activity, and therefore the need and rewards associated with the oil sector were a revelation and exciting opportunity for those selected. The same is not the case today, where conventional industry is looking for good graduates and the oil sector has to compete with other sectors. For recruiting good graduates there was positive benefit to the oil sector from the lack of opportunities in other sectors.

The ETOD report also recommended that the establishing of a centre for postgraduate petroleum engineering in Scotland should also require all of those involved to be active in relevant research. The working party had recognised that there was no such research-base in the UK. This was one of the perspectives of Tom Patten who, with others, recognised that UK research funding was organised on a strictly subject base, with funding from the Research Councils related to single disciplines. Clearly this new technical area for the UK, with its multidisciplinary perspective like Petroleum Engineering, would not fit in the UK's established research funding structure. One of the things that Tom [Patten] and others did was to identify the need for a research focus in this area, and the Marine Technology Initiative within the Economic and Social Research Council (ESRC) was established. At the same time, the Department of Energy recognised the need for stimulating research in this area and established an Advisory Committee on Enhanced Oil Recovery, with representatives of industry plus two from the university sector, Heriot-Watt University and Imperial College, to give advice on the distribution of funds for oil and gas Research and Development (R & D). At this time the Department of Energy also saw the skills available at the Atomic Energy Authority (AEA), Winfrith, in the context of nuclear-related research, as a suitable base for carrying out supportive work for the Department in its role of overseeing the UK's hydrocarbon reserves, and established an oil-and-gas-focused activity there. There is no doubt in my mind that the Marine Technology and Department of Energy initiatives were pivotal in establishing research competency in the UK in the upstream oil and gas business. The UK has now upstream research centres that stand alongside other longer-established worldwide locations.

The pump-priming public sector-sourced research funds were followed up by the Research Council encouraging participation of the industry in research alongside their public finance. This the industry did well before the middle 1980s when further encouragement came from the government to support 'UK Research Ltd.' in relation to North Sea field licensing rounds and that gave another stimulus to building the research effort in the UK.

Over the intervening years, public sector support has declined in proportion and industry finance has grown, often through partnership projects involving a number of companies. The public perception of the industry now is not what it was 25 years ago, and the wrongly characterised comment of a 'filthy rich', rich and filthy

industry does not go well for leveraging public sector support for R&D.

The UK standing in the upstream postgraduate league and its international position in R & D developed over the last 25 years owes its position to a number of visionaries, the availability of graduates from other disciplines and the partnership in funding from both the public and private sectors.

KEMP

I would like to get all the issues covered. One issue, which certainly was important from the Scottish perspective, was the eagerness to get a share of the activity. The Scottish Office had a role there, including policy towards designing and making available construction sites. I would like to ask Gavin McCone to say a few words on that aspect.

GAVIN McCRONE

I'm Gavin McCrone. The Scottish Office was involved in this in a variety of different way. It had to try and make sites available for the construction of fixed offshore platforms. And that was difficult because, when the industry looked as if it was going to move into concrete platforms, the kind of sites that were suitable for concrete construction were very few and far between and usually in very inaccessible parts of Scotland. And we did not have the advantage the Norwegians have of being able to develop suitable sites very close to centres of population. By the time we got organised and produced some sites the industry had moved back to steel, with the result that one of them was never used at all, although it was developed for use, and another one was used, but only to build one single steel platform when it was chosen to build concrete platforms. So that was something of a fiasco, but such an outcome was not predictable. I think that really just has to be put down to experience. The steel sites were not a problem, generally speaking, although the estimates of the oil industry were that far more steel platforms would be required than in the end were required. This was because, as a result of technological advance, it became possible to make do with fewer platforms than had originally been thought.

As I am on my feet, I would like to emphasise what Basil Butler said a moment ago. From a Scottish perspective, the aspect of this that was really most disappointing was the inability of Scottish firms to respond adequately to the opportunities that were there. Ship-building was the most glaring example. We had a substantial ship-building industry in Scotland; indeed, at one time we were responsible for building an enormous proportion of the worlds' ships. Scott Lithgow endeavoured to get into building for the oil industry; but they built only three semi-submersibles and two drill ships. They made a profit on none of them and most were completed extremely late. They were satisfactory by the time they eventually appeared, but far too late.

The American company, Marathon, bought the John Brown ship-

Danny McGarvey was Leader of the Boilermakers' Union.

yard on the Clyde, for reasons that I've never subsequently understood, except that Danny McGarvey* persuaded them. I was involved in preventing them from shutting down on at least three occasions, and they're still there - except they are no longer Marathon, of course. But they must have been under a misunderstanding of what the North Sea actually required because it is only possible to build Jack-up rigs that far up the Clyde. And of course the northern North Sea is not suitable for Jack-up rigs. Only the Beatrice field, so far as I can recall, had a Jack-up rig. Semi-submersible rigs couldn't be built where the John Brown yard was situated without knocking down the Erskine Bridge on the way past, which they very nearly did with a Jack-up on one occasion. So, if Marathon had thought about it rationally, they would have come to Scotland but gone to a different site where semi-submersibles could be built.

The other area of course was the steel industry and that's also been mentioned. I recall being at the Methil yard for the launch of the Shell Auk platform and meeting there Jake Stewart, who was then the main Board director responsible for General Steels, in the British Steel Corporation. And I said to him, 'Jake, did you supply the steel for this rig?' and he said, 'No, it came from Belgium and it's almost as poor as the stuff that we produce'. British Steel Corporation (BSC) missed out on pipelines: they didn't invest in equipment to make the right sort of quality or diameter of tube.

Now the Steel Corporation has transformed itself, and the ship-building industry has largely disappeared, but these were areas of immense missed opportunity. Why was that? Well I think it was really because those industries were in a deplorable state at the time that the developments were required. Their levels of productivity were well below those of their competitors in other countries. Thus, for one reason or another, whether it was fragmentation of Unions, bad industrial relations, poor management, probably everything, they were just not able to rise to the challenge. I don't know what anybody could have done about that, and certainly I don't think we in government could have done very much about it. The Offshore Supplies Office, I think, did a good job in trying to get orders into British firms as far as it could, but government couldn't do very much about the inefficiency of these industries.

KEMP

If I can look at the Scottish Office as being principally involved in ensuring that the infrastructure was in place, do you think that you did your job well or could you have done better?

McCRONE

I was assuming the infrastructure aspect would probably come up in the next session. The infrastructure was crucial, and I think we did pretty well in the end. But we were running like mad to try and catch up because we certainly didn't foresee, I don't know whether anybody did, the speed of the development that would follow the fourth round of licensing. With hindsight, some people thought the

fourth round was too big, and it certainly launched a kind of gold rush situation in Scotland, which it was quite difficult to handle. Jack Fleming, who is here today, was involved in this as well. We were trying to build houses in areas where people would have to live, Aberdeen airport was rebuilt, supply bases had to be constructed and roads and railways improved. Eventually all this happened, but there was a period during which the infrastructure was not yet in place and the oil industry was trying to get ahead. During that period, lack of infrastructure was a bit of an impediment, but I think it was quite an achievement that we got so much in place as quickly as we did.

KEMP

Thank you.

MICHAEL POSNER

Just one word to finish with arising out of that. I think it was John Foster who raised the rate of depletion question. I don't agree with many of the things which he said, but that rate of depletion question does have to be asked in this context. Would it have been better to go slower? Now we asked that question in various academic and government circles at the time and the answer was indecisive. Very few people spoke out for a slower rate, although I think Tommy Balogh did.* From the industrial point of view that you've been discussing, if it were possible to stir British industry (I make no distinction between Scottish and English) maybe slower depletion would have been better. But that would have just given them a longer time to make a mess of it. And I'm not sure whether they would have risen then. Thank you.

Thomas Balogh (Lord Balogh) Minister of State at the Department of Energy March 1974 to December 1975.

PETER ODELL

I wonder, Mr Chairman, if one couldn't draw some conclusions from the contrasts between this afternoon's presentation of the difficulties that faced British industry, in the context of the oil system that we developed, and the success apparently on the other side of the North Sea. We heard this morning of the almost ideological anti-government intervention, anti-government involvement in the North Sea, as something that had caused problems here. In Norway we gather that the interventionism caused even greater problems. Statoil lost a few hundred million dollars on a number of things they attempted. And, from that evidence, there were people this morning on the platform and in the audience who said that that just shows how wrong state intervention, state involvement, is. This afternoon what we've heard is that lack of state involvement, the lack of state intervention, the lack of state leadership, the lack of a British national oil company, caused all these problems and was the reason for the inability of British industry to get involved in the system that had been developed. Now it seems to me that this is the other side of the coin. Some of the people on the platform this afternoon are from exactly the same companies as the people who were on the platform this morning. Perhaps they have internal arguments about, you know, who was right and who was wrong.

And perhaps, had we persisted with what the Norwegians persisted with, in terms of the directorate, in terms of the national oil company, then British industry would have done better than it did. And what was lost by Statoil is peanuts compared to what was lost by Britain, in terms of its ability to get its producers and its government together in some kind of partnership instead of in some kind of ideological antipathy towards each other.

KEMP

On the policies and comparisons between Norway and the UK, the economic position of the UK in the 1960s and 1970s was very different from Norway's.

ODELL

... in Norway they had exactly the same kinds of problems ...

KEMP

Norway had only four million people and didn't have the same pressing balance of payments problems.

HENDERSON

Could I just ask Peter, where did you get from anything that's been said this afternoon that the lack of a British national oil company was part of the problem?

ODELL

It was inferred from what was said that there was no leadership given to the industry by a national entity, be it a directorate or a national corporation or, perhaps, even by government. Therefore, everyone involved in the industry, private and public, couldn't have gotten an act together in the way the Norwegians did, and the way the Dutch did, so that everyone in those countries knew what was happened.

HENDERSON

Like the Dutch national oil company?

DOBSON

On that last point I do think it comes back to the earlier remark about risk and return. The whole of the British economy at that time was operating on a totally different basis from the Norwegian one. There were a number of differences, very significant differences, one of which was that there was, as you say, no leadership. But there was the OSO encouraging everybody to have British owned and controlled companies. For my sins, I ended up running a joint company formed between a British company and an American one. The British contractor had no real understanding of the oil industry and did not comprehend what was involved. We were successful. We built one concrete platform and it was one of the most innovative platforms that was built. It was successful because we applied American practices to British contracts, we threw out the initial British contract, which was written based on civil works, because this was a concrete platform, and we built it as if it was a steel platform. It was incredibly successful in accommodating the changes that came around as a result of the Piper Alpha Enquiry.*

Piper Alpha Enquiry, see Cullen Report, note above, p.61.

It floated out, on time, with just the one inch clearance on the seal that was required to get it out of dry dock, and about four ulcers for me. But what was important was the difference in attitudes. It came out in all sorts of areas. It came out in the attitude of the OSO to where you based your design team. Now we have heard that the British engineers are to be seen all round the world. That is because they understand that real technical expertise is in the head of the engineer who goes where he wants to get a job. We ran a large design office in Hammersmith and we were castigated because we sent the front-end team over to Houston to work with the client on a job and we did not bring the client over to Hammersmith. On that occasion, I could not convince the OSO that actually we were in a service business and we did what the customer wanted. But the expertise, the owning and control of expertise, was all here in London. And then finally, I suspect somewhere underlying the government's attitude, were the effects of the Byatt Report that said that major projects were a drain on the economy. You will recall this report was written in the late 1970s and it had a great effect on the support that was available from the government to the bidding, particularly of big projects, but also to where the projects were centred. And that was very different in Norway.

FOSTER

Confederation of British Industry,
Britain Means Business (London:
CBI, October 1977)

Could I challenge this assumption that, in a sense, Britain was very different from Norway? Britain is very different from Norway, but not necessarily in terms of its economy and the relationship of oil to the economy. Obviously there are differences of magnitude, but in 1977 the Confederation of British Industries (CBI) came out with its programme 'Britain Means Business' which put a slow development perspective for oil.* It also had a perspective of reinvestment of oil revenues in the infrastructure that was very different from that being argued by other economists closer to the oil industry. There was a big division within business circles about the strategy to be adopted from the late 1970s about whether to stop the pound becoming a petrol currency and prevent de-industrialisation resulting, and whether therefore there should have been a slower pace of development. In those circumstances there would have been the lead-time to develop expertise that was predominantly held by the Americans in the early 1970s. At that point they did control the bulk of the world oil subcontract market. That monopoly was never really dislodged in Britain at all.

KEMP

Denis Healey, Chancellor of the
Exchequer March 1974 to May 1979.

IMF loan resulted from an economic crisis in 1976. The terms of the loan forced the Labour government to make cuts in public expenditure.

The pressures were so different in the 1970s if you recall. The British economy was in dire straits, balance of payments-wise, and you will recall Denis Healey* having to turn back from the airport because of a sterling crisis, the International Monetary Fund (IMF) loan,* all that sort of thing. We desperately needed the oil. Denis Healey used the argument about large revenues from oil when negotiating to obtain the IMF loan. There was consensus that we needed the oil quickly. The pressures were not the same in Norway.

FOSTER

I'm not sure you are totally right about that. The consensus had largely disappeared by 1977/78. There were differences of opinion in government and business and it was quite clear that, by the late 1970s and early 1980s, the pound would be dangerously inflated in value. If you go to the mid-1970s, and it was a point that was made this morning by people like Peter Odell, because it constituted something like 20 per cent, over 20 per cent at one point, of all industrial capital investment, the actual cost of bringing in most of this from abroad was itself a major factor in unbalancing the balance of payments. So it was to some extent almost a self-inflicted problem in terms of developing oil so fast.

POSNER

Sorry, I think it was the other way round: it helps the balance of payments. That's not to say that your main argument is not wrong, but we must get the analysis right.

FOSTER

I wasn't saying the capital alone. It was the purchase of equipment from outside which might, given time, have been produced in Britain.

KEMP

Isn't there a point, Michael [Posner], about the perceptions at the time, that we needed the oil for the balance of payments in the 1970s, and it was not until the early 1980s that the pound became strong due to the further doubling of the oil price? But that doubling of price in 1979-80 was hardly foreseen in 1975, surely?

POSNER

That is a fair point, thank you. I do believe that the argument for rapid depletion was not uniformly held, was not entirely one way at the time, and is not entirely monolithic now, looking back. This is a fair point and should be properly reflected in the record of this discussion. We could have done things differently, whether we would have benefited from so doing I'm not quite sure.

MacFARLANE

What is teratechnology,* does anybody know?

DENTON

Mr Chairman I know you have closed the session but could I just make one balancing point on the question of why did our shipbuilders not seize the opportunity? My experience is that shipyard after shipyard all round the world have tried to build mobile offshore drilling units and each has burnt its fingers. You can see the law suits flying around. Probably the biggest beneficiaries of the whole business are the big law firms in the City of London. But it is a fact that they are most difficult things to build. They are, as has been said, alien to a shipbuilder and it's not surprising that the shipbuilders did not see them as a particularly profitable business. And, in fact, the more that we saw the people round the world burning their fingers, going out of business, the problem must become very obvious: that if you want to get into this business then you set up

Professor MacFarlane has, since the witness seminar, discovered that teratechnology is the study of through-life optimal reliability and maintenance.

yourself to do it properly from the word go, and that's your prime business. Maybe that's why Finland got the jobs, they started with that objective in mind.

MacFARLANE

I've seen nothing that says that the companies that have done well in Britain are the companies who got into the oil industry. Who says that it was a good thing to get into anyway? Existing companies did well if they stuck to what they were doing. If they tried to dabble in the oil industry, they got burnt and went down. It was new industries that should have been developed.

The Development of North Sea Oil and Gas

Session III: The Government's Perspective

Edited by Gillian Staerck

This witness seminar, organised by the Institute of Contemporary British History, was held at the Science Museum, London, on 11 December 1999. Participants in this third session included James Allcock OBE, Basil Butler, CBE, FEng., Sir John Guinness, Charles Henderson, John Liverman, Derek Lyddon, Dr R. G. L. McCrone, Sir Alastair Morton, Sir Iain Noble, Michael Posner, Eric Price, Dr Ian Rutledge, Paul Tempest and Dr Philip Wright. The seminar was chaired by Professor Alex Kemp.

KEMP

This session is entitled 'The Governments' Perspective'. We will be discussing policy issues with emphasis on the governments' perspective. Of course, how others are impacted will be very relevant. Can we start with John Liverman.

JOHN LIVERMAN

I am John Liverman and I was at the Department of Energy and its predecessors from 1972 to 1980. I was concerned with North Sea affairs. And I can comment briefly on most of issues numbered one to six, but mainly on three of them I think. I'd first like to say something about the question of reserves that was mentioned earlier. This bears on the question How prepared was the civil service? How dependent were we on the oil companies? I don't think it was made clear in the earlier discussion, except in a passing reference, that we in the department published annual estimates of reserves from the early 1970s onwards, dividing them into proven reserves and probable reserves; it might even have said possible reserves. But I'd like to emphasise that, as one or two people said, this operation was one of inspired guesswork. Also, that you can employ the best geologists in the world but they still don't know what's there until they drill holes. Moreover, even the great oil companies of this world did not have universal wisdom in this matter, which is best illustrated by the fact that, when the block in which the Forties field was eventually found was first put up for licence, no one was interested to apply for the licence. The same applied to two fields that eventually proved commercial, which were offered twice before they were taken up. Meanwhile the companies were going all-out for blocks in the south-western approaches and near Cardigan Bay, where not a drop of oil has been found. So I don't subscribe to any conspiracy theory about the estimation of reserves – it's a business of guesswork where we all did our best.

Mrs Margaret Thatcher, Conservative Prime Minister, May 1979 to November 1990 (Baroness Thatcher of Grantham).

International boundaries is the next item here: and reference must be made particularly to the boundary with Norway. I'm slightly embarrassed about this because, when Margaret Thatcher first became Prime Minister* – and breezed into government departments to see the officials she was going to be saddled with – she came in her electric blue suit, fixed me with a baleful gaze and asked, 'Why did I allow the Norwegians to get away with it?' I wasn't in post at that time, but that wasn't accepted as a good answer. It may account for my lack of advancement from that point onwards. I thought of some good answers afterwards, as one does. I am not actually aware of how carefully it was considered at the time because of the desire for speed, but I can offer some observations. The argument would have been that there is a deep rift in the ocean called the Norwegian Trench. It's much nearer to Norway than it is to Britain, and it could have been argued on geological grounds that it should have been taken into account in fixing the boundary. I think the chances of success in arbitration would have been slim, but that is speculation. What is certain is that, once you go to arbitration, you can say goodbye to any oil drilling in the disputed area for something between five and ten years. The arbitration I was involved in with the French took eight or nine years, I think, from the start. Once you are into arbitration you then have to decide who's going to arbitrate. The natural recourse is to the International Court at The Hague, with which the French wouldn't have anything to do, because they had received an adverse ruling on the Pacific nuclear tests. So we had to agree who should arbitrate; set up an ad hoc tribunal; and then various legal proceedings, with which I will not weary you. The years passed by, the judges were distinguished in the law and advanced in years, and I remember asking my Foreign Office colleague, 'What happens if one of them dies before they've finished?' 'Oh well,' he said, 'You've got to start all over again!' So there was a balance to be struck. I think, however carefully it had been considered, the decision might well have been to settle it quickly with the Norwegians, then we could get ahead with drilling. And this was done with such success from the point of view of speed of drilling that, from the figures I remember, by September 1972, in the British sector, over 400 exploration and production wells had been drilled. This was more than twice as many as in the Norwegian, German, Dutch, all the other sectors combined. And that leads me (and I think it covers some of the other points as well) to say that the driving force throughout my spell in the Department was to get on with things, to get increased security for our oil supplies and to improve our balance of payments. Moreover, the consideration from time to time given to depletion policy never materially affected that line of policy. Rightly or wrongly, I'm reporting on the facts of the situation. Well that is all I can say about the international boundaries, I don't recall any conflicts between the Treasury, the Foreign office and the Department of Energy but maybe this was so much a part of ones life that one didn't notice it. The control and pricing of gas

was before my time, and Michael Posner and others will be more enlightening on that.

Were we too close to the oil companies, too lenient in the terms and the licensing arrangements? That is really linked, I think, with the other point I can comment on which is the result of the outcome of the Public Accounts Committee (PAC) Enquiry. Well debate rages to this day. I don't think one should underrate the revenues that the government got from royalties. As to the licensing system, the discretionary system was of course a very powerful negotiating tool in government hands in any dealings they had with the oil companies. It perhaps became less effective with time, as more and more of the area was licensed, but all the oil companies were concerned to stand well in the government's reckoning in their applications for licences. And the discretionary licensing system allowed the government to state open, published criteria of government policy and the applicants were judged according to how they performed against those criteria, including giving full and fair opportunities to British suppliers, the work of the OSO. I think it's true that the PAC Report 1972/73 marked a watershed in government policy in that, from that time on, rather more attention was given to ensuring that the take of the revenue from the various sources was as much as it could be without deterring development. Also it ensured that the operations were more strictly regulated, for example in the control of flaring, approval of development plans, and so on. But I'm not sure that any revenue was lost by not reacting in that way in the early 1970s. The Petroleum Revenue Tax (PRT) was introduced in 1975. I'm not sure that any tax revenue would have been generated by that time, very little. So if there was a deficiency in the government's attention to that aspect I think it was remedied before the revenue was lost.

KEMP

Can I ask the first question on your presentation? In the very early licensing rounds the prospectivity was very unclear. But by the fourth round, was it clear that the North Sea was a very prospective province, and serious?

LIVERMAN

A lot more what? Auction system? Well it was intended as an experiment to see how it went. It produced for one, two, maybe three blocks, a much bigger bid than anyone expected. And the PAC queried whether, having got that result, shouldn't the government have paused at that point instead of continuing with that enormous fourth round by the discretionary system? I was present at that PAC meeting – as a spectator, I'm glad to say – and Robert Marshall conceded that that might have been the right policy. We should have paused at that time, although it might have been regarded as a breach of faith on the part of the government after announcing that the fourth round was going to be in its original form. But, my own opinion in retrospect is that, yes, it would have been good to have taken a second breath at that time. It would not

necessarily have led to putting more blocks up for auction, because that remained a matter for debate throughout my spell at the government until 1980: whether putting bids up for auction had any advantage over the discretionary system or indeed whether it would have bought more revenue to the government.

**CHARLES
HENDERSON**

I'm Charles Henderson. I was in the Department of Energy until 1996, with responsibility for energy and I had quite a lot to do with British National Oil Corporation (BNOC) earlier on. The question of whether or not to auction was one which continued after 1980, John [Liverman], all the way through to 1996 as far as I was concerned. With the Treasury being slightly more interested in it than the Department of Trade and Industry (DTI) was. And I think that there is a dilemma. It was argued by Colin Robinson that the right way to handle getting an economic rent is to put all the licences up for auction and that settles the matter once and for all. He didn't say that, but that was the implication. I don't think it would have done. Moreover, against the background of the discussion we heard this morning – in which a lot of emphasis was placed on the lack of knowledge in the early years as to what was there – the idea that the bidding could have in any way related to the eventual value of the resources in the ground is fanciful. It would have been necessary to have had a special taxation regime to cream off the profits, whatever the process at the beginning had looked like. Even now I think there would be doubts as to whether you would really get the best of the arrangement through an auction process. And, of course, one of the reasons that we were particularly averse to an auction at any one stage was that we didn't want the licences all to be taken by the major companies with deep pockets. We were in the business of encouraging small newcomers to develop as oil forces, and this would have been a serious deterrent to those companies.

KEMP

I should like to add that the evidence to the Public Accounts Committee did unveil that the discretionary licensing system did give you the opportunity to make sure that British oil companies at least could share in the licensing awards.

IAIN NOBLE

Well I suddenly realise I am in a den of thieves. Could I just say a few words from the other side of the fence, in that I was, in 1970, a merchant banker in Edinburgh, having just started with Angus Grossart Noble Grossart Ltd. My first involvement in oil entirely was when first one, then a second, finally a third, American oil company came to the door and said, 'Look, you may think this is very extraordinary but we think that there is quite likely to be serious amounts of oil in the North Sea'. When the first one came, I didn't believe it really and I said that we'd look into it, but didn't think there was anything much in it.

When the second one came, and then the third, I realised that something was going on, so I immediately went round to the Scot-

tish Council (Development and Industry) where I had been working earlier for some years. I spoke to one or two friends there about it and said, 'You know there might be some oil in the North Sea'. And it appeared from what I was told that they had no idea about it whatsoever, and didn't believe me and sent me away. So I then went to the Scottish Office, as I thought they ought to know, but they too thought it was all fanciful.

So in that sense, I suppose I was in fairly early in the game as far as the commercial sector was concerned. What was really interesting was that these American oil companies, all three of them, said, 'Look, we think we will have a better chance of getting a good allocation of exploration licences when the fourth round comes if we have a Scottish partner. We know you don't have any serious capital to put in, but we're quite happy to give you a modest carried interest at least up to the point where there is a discovery. We would be absolutely happy to offer up to ten per cent as a carried interest.'

That sounded pretty tempting. There was nothing to lose. We then went down to see Mr Angus Becket and his colleagues at the Department of Energy, and it very quickly became apparent that he would disapprove strongly: 'If anybody is found to have a carried interest it will earn them black marks when the fourth round licences come to be allocated.' You see politicians and civil servants are not very accustomed to thinking in a business mode. Now considering what's happened throughout the rest of the world since that time, it was clearly a remarkable lost opportunity for the UK and a strange policy decision.

Thereafter, as merchant bankers, we raised money, formed Pict Petroleum, which then had to pay pound for pound alongside its larger American brothers. The American brothers, of course, did better than we did because they were also the operators, and benefited from operators' fees, and made a profit out of that too. That was the way the fourth round started, and I would say with hindsight on completely the wrong foot.

Then we also set up one or two other smaller exploration companies as well and it was very exciting. But in 1972 I left Noble Brothers and set up a company in the North Sea to provide the maritime services that were going to be needed, called Seaforth Maritime. We were one of the few early companies set up to service the rigs. We were looking for a chief executive to run a Scottish fleet of supply ships and other infrastructure, but it was very hard to find anybody in Scotland who had any relevant experience and qualifications, although we employed head hunters. In fact, the person who was eventually selected was from the milk industry and he loved ships. He was James Hann and a lot of you here will remember him, or know of him.

At lightning speed he learned the tricks of the trade and, luckily, we had had good relationships with Total Oil Marine, who had become one of our partners in a fourth round exploration licence. I had asked them, being ignorant at that stage, 'If there are going to be oil

discoveries, what will happen next?' They replied, 'You Scots are good in maritime things, why don't you offer some supply ships'. We said, 'Well, what size and shape of supply boats?'

At that time, the concept of supply ships had been developed in the Gulf of Mexico, where waters are on the whole calmer, and they were different in design. We had to design a new kind of supply ship. We did it jointly with a shipyard at Drypool, near Hull, but with much input from Total. When the first ship was three-quarters built, we went back to Total and said, 'Our ships are going to come on-stream shortly, would you give us a contract please.' And they, of course, replied, 'That's another matter entirely, because you don't have any track record in this field. We do need to go with people who have already the required experience. So I'm afraid it will be very difficult to give you a contract.' That was the kind of difficulty we faced as instant entrepreneurs in a new sector. Anyway, we turned on our best charm, we did our best on the pricing, almost to the extent of running the ship without any profit at all. Eventually, to Total's credit, they gave us a contract for one ship, which was fine, but the second ship was by then coming along, and we'd ordered four.

We struggled. We struggled, and eventually we got them all chartered by putting together an excellent team of skippers and crews, and ended up by being one of the preferred companies in the game. It was damned hard work, with virtually no support from the government whatever. Even OSO wouldn't go out of its way to support us. They said, 'It doesn't matter. We'd like to have Americans here as they know how to do it and we are in a hurry.' We argued at that time that we knew we would not be allowed to operate in inshore American waters in the Gulf of Mexico, because of the shipping laws which then prevailed in the States, and for all I know still do. We also knew we would not be allowed to do anything in the Norwegian sector, because that was completely tied up by the Norwegian Government. Yet the Americans and Norwegians were free and able and even encouraged, so far as we could make out, to come into the game in the North Sea. Why? Because the government was presumably in such a panic to earn some revenues that they didn't care where the money came from. They didn't think it was possible to allow time for Scottish and UK commercial interests to gain the necessary experience step by step. You just had to go straight in the deep-end of the swimming pool and hope for the best.

It was a pretty challenging time, and I think the government made a grave mistake. I thought so at the time and said so, and still hold the same view. However, as we know, politicians and civil servants do not always approach such issues with much commercial understanding.

Another very interesting anecdote is that the T team at Total Oil Marine said, 'Look we have got fourth round licences in the far north. If there is any gas there we will have to land it somewhere. We'd better have a look around the Shetland Islands and find a

suitable site.' Three times we chartered a plane. We flew there with the 'Total people and looked at different sites. It was very important that people in Shetland should not know why we were there. I'm in fact keen on music and I had known Tom Anderson who was famous as a leading fiddler in the Shetland Islands. So we always managed to construct a concert around our visit, and had a cheerful time, late nights and all. But, during the day we surreptitiously crept out and found Sullem Voe. We saw it, we decided to go and see the crofter who had most of the relevant land. We knocked on his door and went in and said, 'Is this your land?' 'Yes'. We chatted innocently and found out that some six generations of his family had lived there, and so on. Then, we said, 'It's quite interesting. This land has some potential for development in the future. Would you ever consider selling it?' 'Never', he said, 'Don't mind what the price is, we would never sell it as a family.' We went away and the next time we came back we knocked on his door again and said, 'Look you said there was no price, so supposing we offered you a price that was really very, very good so you could buy several crofts elsewhere?' We agreed a deal with him, but we already knew that the site was worth several millions to 'Total. We returned later with a lawyer and signed it up. After we left the house I said, 'We can't do this. The man will eventually realise he's been taken advantage of.' So, next day we went back and said, 'Look, this site is actually very important and we're willing to double the price for you.' That kind of thing was going on in this industry in a cowboy way in the early days. The first person who, in my opinion, got a grip of it was Ian Clark, the District Clerk in the Shetland Islands. He saw that the industry had to be controlled for the benefit of the local community, and effectively achieved this for Scotland. And I suggest that Ian Clark was far ahead of both the Scottish Office in Edinburgh and Department of Energy in London. From a Scottish point of view, I was aware that, although the Department of Energy always put out questions to those applying for exploration licences about how the British economy might benefit from each specific application, there were never questions about benefits to the Scottish economy. Scotland at that time was much in need of economic help, and so that was a grave omission.

To conclude, the discovery and subsequent early development period of North Sea oil was managed by Westminster and the Scottish Office in Edinburgh in a muddled and naively non-commercial manner, with an intent to extract oil in haste, which prejudiced the orderly development of a Scottish and UK-based oil exploration and oil servicing industry. The Shetlands local authority had more vision and saw what could be achieved, setting an example to the rest of what I have to call a disorganised hierarchy and presumably a panicking Treasury in London at that time.

Similar lessons could, of course, have been learned from the more pragmatic Norwegian approach. The downside of not having taken best advantage of the situation is that oil production in the North Sea UK Sector is already starting to decline steadily. This is at a

time when prices have arisen to their peak, and self-sufficiency is beginning to disappear with it, while leaving a still insufficiently strong oil service sector in UK which is still not as international as it should be.

KEMP

Thank you very much. I want to go back to our main theme and call on Michael Posner now.

MICHAEL POSNER

Chairman, on question one I have no comment. On questions two and three we have had some discussion. I spoke briefly this morning, and Colin Robinson told his story. I agree with what John Liverman says. We thought, in my day, that there was a little gas without oil, and we wanted to get it out as quickly as was convenient. We didn't really see oil and gas being discovered and produced from the North Sea over a very long period, which has turned out to be the true story. Maybe, if we'd listened properly to Peter Odell at the time, we would have guessed that this was true but we didn't then *know* it was true, therefore we were in favour of rapid depletion. The consequences that people have been pointing to most of the afternoon did indeed follow. The civil servants in the early part of the period (this is before John Liverman's time) were rather inadequately prepared, but they were very experienced in dealing with oil companies. And they wanted the oil companies to do this extraction job for us as quickly as possible, giving due favour to British small companies, as well as the international majors.

I have nothing to say about questions four or five. I would like to spend two or three minutes, if I may, on question six and in particular the question of whether we did benefit from the North Sea. And could it have been managed better? I hope that, in doing so, I can speak for the profession, so to speak, of plain man macro-economists as well as for myself in at least the first few words. The proper professional approach is that there were two ways, and two ways only, in which a goldmine of this sort, suddenly discovered in your back garden, could be handled without upset. Well there are only two ways it can be handled. The first is that the exports of gold – oil is black gold – can displace some other exports of herrings, or motorcars, or whisky, or whatever. And in order to encourage that to happen you have to have the exchange rate going up. That was what was called this morning the pound becoming an oil currency. Sterling was an oil currency. You force up the exchange rate, you price out of business other exporters, oil replaces other export and imports, replaces as foreign exchange earnings, and that in part is what happened in the 1960s, 1970s and 1980s. The other thing you can do, if you don't want that to happen, or the market could produce another solution, is that, instead of using the benefit from North Sea oil in that way (that is to increase 'leisure' in the former export industries – called unemployment) you could encourage the chappies in the City of London to acquire a large amount of dollar or red franc assets. And that would

Tony Blair, Labour Prime Minister, May 1997.

Harold Wilson, Labour Prime Minister, October 1964 to June 1970 and March 1974 to April 1976 (Baron Wilson of Rievaulx).

Thomas Balogh (Lord Balogh) Minister of State at the Department of Energy, March 1974 to December 1975.

use the oil money in that way and it would stop the pound appreciating, because capital would be being exported and British exporters of whisky would not thereby be damaged. And what we did in the 1960s, 1970s and 1980s, was a mixture of those two things. So far as the conventional analysis is concerned, some heretics (among which I count myself) still I think, have argued, that there was a third way (and I didn't mean that as a joke). Not a Blairite* third way, but a sort of Wilsonish,* Tommy Balogh* third way, in which you could use the oil revenues to remove the balance of payments constraint which was previously preventing you from running your economy at full speed. And if you did that, you could have higher output and employment at home. That would suck in more imports of food, manufactured goods, whatever, and you would use the oil revenues to pay for those extra imports. And that would be a wonderful third way by which you get more and more prosperous. I don't really think it's possible to find much evidence that this third way was followed at all for the period that we're referring to, and I am sorry about that. I suspect the proper professional members of my profession would say that that's too bad. There never was balance of payments constraint. The reason why we were performing rather lousily in the 1950s and 1960s, was that we had a lousy economy with low productivity and output, and low growth in the same, and finding some gold in your back garden does nothing to improve that. Therefore we had to suffer under Thatcherism and under Blairism, and it was inevitable, and we should have loved it. We could indeed have slowed down the expansion of the North Sea, in which case we would probably have found ourselves selling large packets of oil in the 1980s when the oil price had reached bottom. I mean the early 1990s, whenever it did hit its bottom. But it's again the depletion question. Now this could be tidied up and presented at much greater length, but I'm about to stop, and I'm not going to do so. But the first two routes of disposing of your oil revenue were the conventional analyses. The third way, of removing the balance of payments constraints, would be much disputed by all and sundry, not just monetarists. Most other sort of professional economists would dispute it, but I still have a soupçon of belief that it might have been possible. But alas that was the past and this is the present. End.

KEMP

Thank you very much Michael [Posner]. Would anyone at the table like to comment, or question Michael?

NOBLE

Why wasn't the revenue bonanza used to redeem the national debt, which would have been deflationary and good for the government's balance sheet?

POSNER

No, because it was foreign revenue. It could have redeemed the national debt that the Americans hold and I think that would be the capital outflow solution which I was describing. But as for the

national debt held by the British pension funds: no you couldn't; not in a relevant sense.

JOHN GUINNESS

Denis Healey, Labour Chancellor of the Exchequer, March 1974 to May 1979.

Just to strike a point: I was once attacked by Denis Healey* – so attacked back – about having a separate North Sea oil firm. He said he thought he had made a hideous mistake in that he didn't actually set one up. He personally was keen on it, but his Treasury officials – Michael [Posner] may have been included or may have been excluded – persuaded him this was wrong. I think one of the effects historically of large revenues was the ability of the government to bail out (I think it was Mr. Benn* if I remember rightly) umpteen companies who went 'phut' after taking up quite a lot of money. So I think I share Michael Posner's soupçon of liking for the third way. I think not having a third way resulted in an awful lot of the revenues, a not insubstantial proportion of the revenues, going straight down the drain: dead ducks.

Tony Benn, Labour Secretary of State for Energy from June 1975 to May 1979.

KEMP

Any other comments on this topic?

PAUL TEMPEST

I'm Paul Tempest. I come with a perspective of the 1970s. In the Bank of England, my responsibilities were the Middle East and the Energy sector, and particularly North Sea finance. I endorse all that's been said about the mad rush of the 1970s and the falling over of government, particularly, to accelerate the development of the North Sea. In the Bank, of course, once we'd had the oil price discontinuity of 1973/74, we were mainly preoccupied by the impact of the OPEC revenue. OPEC surpluses were coming through London, causing all sorts of unexpected effects on the banking system and also to the exchange rate. But at the same time we were terrified that the various precarious systems that we ran, to protect sterling, might be thrown over. We had a thing called the Kuwait Exchange Control Gap, not much talked about at the time because we were so sensitive to it. But the avoidance of exchange control at that time was a very major concern and the fact that our reserves could be eroded by unauthorised transfers by UK residents through Kuwait and the Gulf countries was of great concern to us. There are just three points that I really wanted to draw your attention to.

We haven't talked much about the bankers. We were very concerned to try to mobilise the British banking system in the financing of the North Sea. I remember our initial meetings with the Scottish and London clearing bankers elicited remarks such as, 'Offshore structures are not an appropriate banking risk'. We thought long and hard, and published in our next quarterly bulletin our analysis of the lending that had gone into the North Sea, which demonstrated that the bulk of the business had been snapped up by the American banks. They were very innovative, bringing over all the right skills from Houston and New York. Once our lending analysis was put on a regular basis, the penny dropped and very

quickly the clearing bankers did acquire specialist skills from the oil companies to evaluate those risks, and they did then begin to play a major share in the process.

The second point concerns tax and, although I'm not a taxman I was involved in some of the initial discussions. Looking back, what strikes me more than anything else is that we dreamed up PRT and the Allowances so that the companies would be tempted in to at least recover all their costs and more prior to paying the tax. I don't think any of us realised that this is, in a sense, a commercial non-sense and that, as soon as the companies had taken their allowances and come up to the maximum tax rates, then they were in the game of selling the assets, or transferring the assets, or finding other ways of not paying the tax.

Thirdly, just a small point which Michael Posner made, the point about the capital inflow having a positive effect on the balance of payments, and just the payments for the imports being negative. That did, of course, mean there was an impact on North Sea oil well before 1975, and that the capital expenditure and benefit to the balance of payments did accelerate very shortly in the period 1975 to 1980. The capital inflow in 1980 was four times what it was in 1975. So there were early significant impacts, as well as the direct impact of revenue from exports and from import substitution.

R. G. L. McCrone

Well I was just going to put the Scottish Office perspective. I should explain that, in 1972, I became the Under-Secretary dealing with North Sea oil (amongst other things) in the Scottish Office. And Jack Fleming, who is also here today, was working with me on this. He subsequently, I suppose in 1976 or thereabouts, took over as the Under-Secretary. So I was there at the critical early stage of the North Sea oil development and I combined that post with being the Chief Economic Adviser for the Scottish Office as a whole.

The first question is, how well prepared was the civil service? Well I can't speak for the Department of Energy, but in the Scottish Office we were not well prepared, not when I took over. There had been some discussions and a great deal of interest on North Sea development, but we really didn't know what to expect from the fourth round of licensing, which was happening just about then. I think probably the fourth round took everybody by surprise and, if that is not the case, it certainly took us by surprise. Now why did that matter? Well the fourth round, and the developments that stemmed from it, couldn't actually succeed unless we got into top gear with the on-land developments, and virtually all of these were going to be in Scotland. This included the supply bases for the boats that went out to the oil fields, the sites for pipeline landings, the terminals, the housing for the people who worked in the various areas, and so on. All these things, and the airports – the first time I landed in Shetland we had to fly over the airport twice, first to frighten the sheep away, and then to land the second time. And

an official rushed out of the shed and said, 'I hope you're leaving by three in the afternoon otherwise I'll have to light the paraffin lamps'. That gives you some indication of what the situation was actually like then. I flew to Shetland in the autumn of 1972 and stood on a disused airfield at Sullem Voe, near the north of the mainland, with Ian Clark who was the County Clerk of what was then Zetland County Council. He explained to me that this was where it was all going to happen. But I didn't know what was in prospect even then, and that was the extent of our lack of preparation. But, once started, I think we did move very quickly, maybe not fast enough for the oil industry but developments did happen at great speed. We did get the necessary public investment from the Treasury and before very long the situation was transformed. There were comic incidents at the time. I remember going to a meeting in the Treasury where a very senior official opened the meeting by saying, 'Can the Scottish Office please tell us where Shetland is, and whether there is one island or two?' And of course, because Shetland on most maps is stuffed into the Moray Firth, nobody actually quite knew where it was.

Relations with local authorities? Well there were a number of local authorities. The early stages were pre- the previous reform of local government: not even the last one, but the one before that, and there were some fairly bizarre local authorities. And the ones we had to deal with most were around the Aberdeen area, around the Moray Firth area, a little bit in Wick and Thurso, then Orkney and Shetland. And most people thought that part of the problem would be that Shetland, which was one of Scotland's smallest local authorities, would be totally incapable of dealing with the oil industry. Well actually it proved to have the most astonishingly hard nut as a County Clerk, in the shape of Ian Clark. On one occasion John Drummond of Shell came to me and said, 'I've dealt with some very difficult people in the world, including Colonel Gaddafi*, but Ian Clark is the most difficult of them all.' I think he probably pushed his luck a bit far on occasions but he actually did a splendid job for Shetland. If he had not been there, there would have been a very disorganised development in Shetland. The housing would not have been built that was required. Instead of there being one Sullem Voe oil terminal, there would have been a multiplicity of terminals for each company. And the environment would have suffered. It wouldn't, at the end of the day, have served the interests of Shetland, or indeed of the oil industry. He drove hard bargains and he got a lot of money out of it, from which the Shetlanders benefited very substantially. But, by and large, I think relations with the local authorities, which fell entirely to the Scottish Office as far as government was concerned, were good.

The impact on Scotland as a whole is one of the things that has been missed in the discussion so far. People have talked a lot about missed opportunities. But the impact of the oil industry on Scotland, from the development of the offshore, has been very substantial and that should not be forgotten. Maybe it could have

Colonel Gaddafi, Libyan President
from September 1969.

been greater if different decisions had been taken, but it has been very substantial. The Grampian region, where Aberdeen is, is the wealthiest region of the United Kingdom with the exception of London. It's one of the most wealthy regions in the European Union. It has a gross domestic product per head which is 25 per cent above the Scottish average. It has pulled up the whole of the Scottish average so that Scotland, instead of being one of the poorest regions of the United Kingdom, is now about the third or fourth richest. There is also the employment associated with North Sea oil. I don't know that I have the latest figures, but usually directly-related employment, including companies that are contracting to the oil industry in one way or another, is put at about 63,000. And, if the multiplier to include the indirect effects is taken, at least 100,000 thousand people are employed as a consequence of the development of North Sea oil. That is very substantial and that should not be forgotten. If anything were to happen to the oil industry, Scotland would suffer very grievously, and particularly the Grampian region. Scotland has also benefited because the infrastructure that was put in because of oil meant the development of parts of Scotland has taken place to a degree that would not otherwise have happened. That's true of the Moray Firth area, and it's certainly true of Orkney and Shetland.

Political implications were mentioned this morning. The question was posed in this morning's discussion as to whether Scottish nationalism affected the government's policy on North Sea oil. The answer is no, I don't think it did. But North Sea oil did affect nationalism very substantially. The upsurge in the Scottish National Party (SNP) in the 1970s was dramatic. They won eleven seats in the second election in 1974, and they won 30 per cent of the Scottish vote in that election. It was estimated that, with the first past the post system, if they'd just made it up to 35 per cent they would have won easily the majority of the seats. Why did that happen? Well it was partly because a lot of people in those days in Scotland felt that Scotland had really been doing rather badly economically for a long time. The two Unionist parties, Labour and Conservative, had constantly preached that Scotland wouldn't be able to survive economically if it was independent, that it would be much worse off, and so on and so forth. And oil seemed completely to contradict that. Whether in fact it would have been the salvation of Scotland as a separate country is a different question. But to the man in the street, 'We've got oil. That's the solution to all these problems'. And that meant that the arguments of the main Unionist parties against independence certainly collapsed in the public mind, strengthening the SNP's position very substantially.

I would like finally to comment on an oil fund, as sometimes proposed, and the exchange rate. We did think a great deal about an oil fund. In fact I recall attending meetings in the Treasury, at which I think John Liverman was present, at which we talked about these issues. But the whole idea was dropped immediately the government changed in 1979. If you think about it, an oil fund in the

context of an economy such as the United Kingdom's was an extremely difficult thing to set up in any meaningful sense. The problem was to ensure that it actually produced an additional, rather than an alternative, means of funding what would be provided anyway. What the government did was to set up the Scottish Development Agency (SDA). Indeed, the announcement that there was to be a Scottish Development Agency was made first of all in a White Paper on North Sea oil. That was the government's answer to this question. I argued at the time, and this I think fits in with what Michael Posner has just said, that what really mattered was what was going to happen to the exchange rate because, if the rest of the economy was not to suffer as a result of North Sea oil, steps had to be taken to ensure that the whole economy remained competitive. And if the exchange rate was going to rise substantially because of the effect of North Sea oil on the balance of payments, then other exporters would suffer grievously. As it happened, the government changed and these things were no longer considered very much. What then happened was that the petro-currency effect was combined with an extremely tight monetary policy, as the Conservative Government applied a fairly doctrinaire monetary approach to managing the economy. The result was that the pound, which had been at US\$1.60 or thereabouts in 1976, rose to US\$2.40 in 1981. It wasn't surprising that a lot of businesses suffered very much. I thought that was something which should have been managed better. Exporting capital to investments abroad is one way of dealing with it, as Michael Posner said. Going slower on the development could have been another way. But, in that case, the country wouldn't have had all this oil being produced when the price was at its maximum. A third possibility might have been that, if we had joined the European Exchange Rate Mechanism (ERM) at that time, instead of at the disastrous time we did join, it might have been easier to manage the exchange rate and prevent the currency from rising quite so high. I therefore think that the nub of the issue on how the rest of the economy might have benefited more was the effect on the exchange rate. And it was rather tragic that, in the event, as a result of a very high exchange rate, there was so much unemployment in other industries. So what really was happening was that North Sea oil revenues were paying for the unemployed to a very substantial extent.

KEMP

Thank you Gavin. You've summarised the Scottish perspective very well. You talked about the influence of the oil in getting the SDA set up. From the Scottish Office perspective can you say a word about the establishment of BNOC and OSO in Glasgow?

McCRONE

I suppose it was because of us they were in Glasgow, but it wasn't because of us they were set up. The OSO originally was set up in London and, when the Labour Government came to office, Willie Ross, who was then Secretary of State, said it must go to Glasgow.

Edward Heath, Conservative Prime Minister from June 1970 to March 1974.

That was why it was in Glasgow. BNOG was set up by the Labour Government, and it was set up in Glasgow as well. Some people thought these bodies should have been in Aberdeen, but anyway they were in Glasgow.

We were very much in favour of the OSO which was created following a report by a group called IMEG, which was commissioned by the Heath* Government. I think OSO have done a very good job over the years. The points that I made before the tea interval about the performance of ship-building and steel are depressing, but I don't think OSO were in the position to do very much about that. I don't subscribe to the view that a more draconian line on the part of government could really have solved this because I think so many of the problems lay with the low productivity and the lack of performance on the part of many of the key industries.

As far as BNOG was concerned, I don't think I have much to say. Before the Conservative Government collapsed there were papers going to Ministers about what should be done to ensure that we got an adequate share of the oil revenues for the state. But the election in 1974 took place before this issue was decided. I also remember going to Norway to discuss with the Norwegians what they were doing. And Statoil, of course, was one of the aspects we were particularly interested in. BNOG was a kind of copy of Statoil, but not by any means an exact copy. My main conclusion, as a result of that visit to Norway, was that the Norwegians at that time were ahead of us in their thinking. But the issues involved in ensuring an adequate share of the revenues for the Exchequer were effectively tackled by the incoming Labour Government.

KEMP

Thank you for giving us the Scottish perspective. Perhaps we could now get Eric Price's perspective.

ERIC PRICE

In the 1970s I was Senior Economic Adviser in three other government departments, which was rather like being a wing three-quarter out in the cold when all the action was taking place in the scrum. And I didn't join the scrum until 1980 when I was chief economic adviser for the Department of Energy. Now when I came in, I was immediately faced with saying, 'Well look, this scrum is in a bit of a mess, as all the scrums are. What is wrong with it?' And there seemed to be a number of features in it which I found very curious indeed.

The first one was the way in which the international boundary had been determined with Norway. It seemed to me that the logic of the whole of past decisions was that the boundary should have been the Norwegian Trench. Now what has been said today helps to clarify that position a bit. I would still like to have asked the question: What exactly was the Foreign Office's role in this issue? And one does wonder whether they were representing the United Kingdom to a fault? But, of course, part of this was no doubt due to the fact that we had fixed exchange rates and there was a balance

Monopsonist, an economic term, the opposite of monopolist, meaning one purchaser to many sellers.

of payments problem so that we had to bring forward oil and gas and develop them as soon as possible. I think that does have to be taken into account.

The second curious feature I found about the energy industry basically was the structure of the gas industry. The fact that British Gas Corporation was both a monopolist and a monopsonist,* and that it was heavily defended on the grounds that it was profitable. Well, an idiot boy could run that industry and make it profitable in that situation. But the corollary of that was, of course, that the gas price, particularly to the domestic consumer, was held down very strongly, very heavily and it was well below the run-down marginal cost of gas if one worked out what the oil equivalent was. And this meant that, first of all, the gas was being used very wastefully by domestic consumers. And also it meant that the incentives to discover gas in the North Sea, particularly in the southern North Sea as we heard this morning, was in fact remarkably reduced. So that was the second feature that I found curious. And the third feature I found curious was what I consider to be an inappropriate tax structure. I pause for a moment – because I expect to be hit by Michael [Posner] at any moment – but it seems to me one was really faced with two alternatives. One was either faced with the alternative of going for auctions, as Colin Robinson has described and as Charles [Henderson] had reacted to. And I'm not at all sure that that was the right solution because there was such imperfect knowledge of the North Sea. The risks were very, very high and I don't believe that the Great British tax payer would actually have gained as much from that as he really should have been entitled to. But I do believe that the tax structure was inappropriate because it should, in my opinion, of been based on economic rent. Now I entirely agree with the fact that the North Sea should have been ring-fenced. I also agree that the individual fields should have been ring-fenced. Though perhaps there should be some inter-field allowances etc. as came later. But I heavily criticise the view that royalty was an appropriate form of taxation in the North Sea. I mean the royalty was something, which was paid basically anyway, and this acted as a strong deterrent to the development of smaller fields. Now of course when PRT came in it attempted to do something about this, but it was not really a tax on profit. It was some sort of an approximation to a tax on profit and, as years went by, so it had to be patched and sewn up and improved etc.. And it was rather like a leaky shed, which had rags pushed into the holes in the hope that they would hold. And I would have liked, even as late as say 1981, for the tax system to be changed entirely, at least in the respect of new fields, so that it was an economic rent which was being taxed, rather than some other calculation which approximated to profit which was far away from it. Now one asks oneself: Why were the decisions in the previous years as they were? And I think we've touched upon one significant one, the obsession almost with the fixed exchange rate and the balance of payments considerations. That obsession was very, very strong. But there was also the fact

that, throughout that earlier period, politicians and I think their advisers, actually believed that you could control inflation by doing something which improved the resale price index. The idea that you could control it via money supply was something which was pooh-poohed because it had been disproved, allegedly, in past years. Now that, I think, partly explains the reason that the gas price to domestic consumers was held down. It wasn't the only explanation but it was one of them. And I think there are two other explanations for why decisions had been made as they were. One was the obsession with public ownership, at the expense of efficiency, which was endemic in that period.

And then finally the so-called energy gap. Now the energy gap was something which statisticians actually devised by taking past trends and projecting them forward, without having very much regard for elasticity of demand for energy. And these forecasts were made and the sources were prepared, and what sources of energy were available were compared with them. And low and behold, there was this great big wedge which had to be filled by something. And everyone ran around in small circles and asked, 'How do we do it?' Now I put forward those four considerations because I believe that they are very important for trying to understand what happened in this period. I won't go into my own mistakes.

KEMP

Thank you very much Eric [Price]. I would like, because you mentioned gas, to ask James Allcock to give us his perspective.

JAMES ALLCOCK

I would comment on one or two things in that case. First of all, the matter which has been mentioned by two or three people, the division of the Norwegian and the UK shelf. Only to say that, whatever the rights and wrongs of that, I do know for a fact that the Norwegians were astonished by the concession which the British Government made at the time. It is of course arguable, as John Liverman has said, that for the sake of time and so on it was acceptable. But they certainly did not expect this concession. It was fairly clear in terms of law that the Norwegians had no continental shelf and that, in terms of the Geneva Convention, the resources of that part of the North Sea belonged to the United Kingdom. However, I've often thought about this, and I do think that the British have a strange way of distinguishing equity from law. And I think, if you look back, it would have been untenable and ridiculous in the event to insist on a different division. And I think that part of the genius of the British in administration is precisely not to stand on the letter of the law, but to reach an accommodation that is sensible and friendly. Now these maybe are astonishing qualities to adduce but I think, in relation to nation states, friendliness is actually quite important. And so, although I think that what the Foreign Office did was inexcusable in law, I think it was friendly, and I think it was properly equitable, peaceable and fair. What else would you like me to talk about?

KEMP

James [Allcock], I know you weren't here in the morning when there was some discussion of gas policies in the early period, and we would benefit from our comments on that, as well as on anything Eric [Price] has just said. I would like you to say something on your perceptions and recollections on the basic gas policies

ALLCOCK

I'm sorry I wasn't here this morning but, listening to the talks this afternoon, obviously the endemic problem is handling the issues with hindsight. It seems to me that the most unreliable source of history must be contemporary history, for everybody at this august table has an axe to grind and a memory of a particular kind. That's natural, and I have too. But given that, one can try and struggle for objectivity. I think there is one issue which has not been mentioned and which history may be interested in because it will come back, and that is: the relationship between utilities and government. At the moment, of course, we're in a fashionable regime of privatisation and de-regulation and arms-length handling, and so on. But the problem of managing utilities has not gone away, is not solved by privatisation: it is changed by privatisation. From an historical point of view, the interesting thing to discuss would be the actual relationship between the Gas Council (and its successors) and government. It has been said this afternoon, and is often said, that British Gas had a monopoly position, and it did not. The Continental Shelf Act gave British Gas a first offer position at a reasonable price and that was put in by Mr. (now Lord) Erroll,* Secretary of State for Energy, to make sure that the oil companies were not screwed by the monopoly distributor.

Frederick Erroll, Parliamentary Secretary at the Board of Trade, November 1956 to January 1957, Economic Secretary at the Treasury, October 1958 to October 1959 and Minister of Power October 1963 to October 1964 (Lord Erroll of Hale).

PRICE

But the gas had to be landed in the UK.

ALLCOCK

Wait a minute, yes, it had to be landed in the UK. More than that Eric [Price], it had to be offered to British Gas. All that I concede. And it had to be offered at a reasonable price to make sure that the sole distributor could not screw the offshore producer.

PRICE

So you mean only unauthorised ...

ALLCOCK

I'm not finished. The government changed, and the reasonable price clause, section nine of the Continental Shelf Act, was used to hold the price down, rather than to hold it up. It was put in the Act to hold the price up. It was used by the government to hold the price down.

The only other thing I'd like to say is this: There were two very interesting issues which history ought to record, which were ideological issues. One was, How do you price a commodity? I mean, Basil [Butler] would agree and the oil companies would also agree here, there was an ideological issue about market pricing and cost pricing. There was a 'ding-dong' about this, which remains unre-

solved, in economic philosophy. And secondly there was a ding-dong about depletion. How do you determine the right rate to deplete an exhaustible commodity? And that I think is unresolved as well. These were the two issues which the civil servants and the academics were genuinely wrestling with. Amongst all the politics and all the pressures and so on, there were these intellectual considerations which lay behind the determination of the early gas prices. But the Gas Council, and British Gas later, was, in terms of pricing, doing the bidding of government. I don't think John [Liverman] would dispute that. And I do think it is of interest for history and of interest for the future when the wheel turns and we have a new debate, maybe in thirty or forty years time, about the handling of the utilities: How exactly should utilities relate to government?

POSNER

On what Eric [Price] and James [Liverman] have said about the gas price, all I would say is that the anti-inflation argument (which Eric mentioned) was *not* in the 1960s and mid 1970s, in my experience, a consideration that was much in my mind nor in the minds of any of the other people, that I can recall. The aim was to find a way of distributing the cash that was fair to the UK public. Of course, there were various other ways in which this could have been done. On the alleged inefficiency of the PRT, I am not an expert. I guess it was an imperfect regime, but it did extract quite a lot of tax from people who had quite a lot of cash and that seems to me, now as well as then, quite a good idea. Otherwise I have nothing to add.

KEMP

I'd now like Sir Alastair Morton to say his piece.

ALASTAIR MORTON

C.Frank Kearton, (*inter alia*) Chairman and Chief Executive of BNOC 1976-79, member of UKAEA 1955-81 and CEGB 1974-80, member of the Advisory Committee on Technology 1964-70, the Offshore Energy Technology Board 1976-79 and the Energy Commission 1977-79 (Baron Kearton of Whitchurch).

Cod War, period of tension between Britain and Iceland from September 1972 to June 1976 over British fishing rights after Iceland unilaterally extended its fishing limits from 12 to 50 miles.

Let me explain that I'm here, I believe, because I was the first managing director of BNOC, arriving at the beginning of 1976. It came into legal existence on 1 January 1976. I had a one paragraph letter of appointment instructing me to establish the corporation as a going concern, reporting to chairman Frank Kearton,* full stop, end of letter. Which I tried very hard to do with some outstanding people like John Liverman, who was the most senior useful and available civil servant at the time, and his sidekick Charles Henderson. I would say, apart from John, I could probably produce more multiples of war stories than anybody else at this table, but perhaps it would take the rest of the night. But just by way of quick example, the lovely business about British Petroleum (BP) and the Forties licence can be capped by saying that, a little bit later, they tried to get rid of it to Gulf (Oil), and actually agreed to sell it, I think it was four holes drilled, and the Gulf Board refused to take it. So not only British companies do odd things. On the Norwegian one, I don't know the whole picture about Shell, but what I do remember was the Foreign Office wanting to get a vote at the UN on the Cod War.* That moved the line at Statfjord just a mile or two our way. That meant, instead of having, whatever it would have been, 100 per cent of Statfjord, we had 40 per cent of Statfjord or

something. I don't remember the numbers.

I gather there was quite a lot said about BNOG earlier, and I'm certainly not going to go chapter by chapter through it with my side of the story, which was obviously a positive view of BNOG. I do remember the reasons why it was established. It was already under discussion under the Heath regime, and the chairmen of the day of BP and Shell would remember those reasons. I think BNOG was established to do a job. The idea of national interest is very over-rated and difficult to define, but BNOG was perceived as working in the national interest. I'm aware that a number of oil companies said to the Conservatives, when they won in 1979, 'Dammit, we've just got used to dealing with BNOG. They know what they're talking about. Leave them be. Don't reorganise yet again'.

I remember a lot of the stories and events that I took part in. For example, there was a very difficult relationship with BP, as though it was the beautiful daughter, for whom everything had been done, suddenly being confronted with a rather spotty and juvenile new step-sister, who was getting all the favours from the parents: the Treasury and the Foreign Office.

The point is that BNOG was set up to have a go at protecting the national interest in a time of highly uncertain future in an increasingly troubled world post-1973, and post-Select Committee too for that matter. I think we achieved a lot: for example, instead of being financed as people said at 16½ per cent – the government's long term borrowing rate after the International Monetary Fund (IMF) was here – we got it at 5½ per cent in America because we behaved like an oil company. On another front, the would-be renaissance of Clyde Side and Scotland for our Scottish friends was tremendously accelerated by BNOG establishing a headquarters up there as opposed to a back office.

We did a lot of things onshore and offshore that were perceived to be in the national interest. I think we would have to have had a separate debate about that. But if I may continue with a few examples – at one time we had the largest exploration programme in the North Sea. It doesn't mean we were the best explorers. It means we had the largest programme, trying to make the fastest progress in establishing what reserves were there. And then again, at the height of the second oil shock which, as I recall, developed during 1979 with the Shah's downfall* and hit full stride towards the end of that year, the oil price tripled. BNOG at that time, and I was doing this personally, was actually handling 63 per cent of the production of the North Sea, either as royalty oil, participation oil, or equity oil. We had a mandate very closely policed from the government to direct the flow in ways that were deemed to be useful. We also worked to stabilise oil prices, but upward pressures were strong. Did other people believe it was useful? Not necessarily, but perhaps the flow didn't go where they wanted it to go. Nevertheless, the effort was made and was not wholly unsuccessful. There was a time when, for example, the government wanted some exploration done to see whether there was any point in hanging on to Rockall, in

The late Shah of Iran (Persia) was deposed January 1979.

James Callaghan, Labour Prime Minister, April 1976 to May 1979 (Baron Callaghan of Cardiff).

deep and troubled waters. The oil industry said, 'If it's tax free to kingdom come, any production from that region, we'll agree to do some exploring for you.' The minister said, 'Sorry about that, BNOG has already agreed to do it.' Two weeks later we had the oil companies signed up at no premium to join us. On we go. If I may – I remember Prime Minister Callaghan* sending the Israeli Minister to buy oil from me, but ringing me up before the chap could get round to my office, saying, 'Don't you dare'. You can take your own view of Middle Eastern politics from that story, but that's what happened. Then the government changed, and a lot of things changed. Not just my job. I went three rounds with her ladyship before the swinging handbag got me. But I think the will to look at oil as something that was of important political economic interest disappeared. I regret that, as it was my belief that there were many deals we could strike in the national interest. Just for example, again, one I tried to strike to promote a policy in Brussels. If we held oil in reserve for the European Economic Community (EEC) (as it was) they would leave us out of the financing of the Common Agricultural Policy. I was making good progress with the idea until the Foreign Office had a fit. Oil was that important in those days, as perceived by others if not by us.

Above all, there was the use of the, by then, rapidly building proceeds, I don't actually remember what the PRT take was in the year to 31 March 1979, just before the election, but I suspect it wasn't very big. It hadn't built up by then. And therefore the real PRT saga, the use of what some people liked to call at that time 'an economic dividend' was clearly a Conservative Government matter, but they didn't want to take policy views on a lot of things. So they didn't take a policy view on another very important thing, which was the heritage nature of oil, and the fact that the proceeds, or a large part of the proceeds, and certainly the super proceeds when the price tripled, ought to have been reinvested in the industry. Not necessarily by the government – let's face it, you can have all sorts of mixed public/private vehicles. We know more about them now but, even then, we were thirty years on from the Finance Corporation for Industry, established after the war.* So human intelligence, even 1979 version, could have devised a public/private partnership, not called that no doubt, to amass investment capital to renew the productive ability of the country, probably starting by a lot of concentration on computers and information technology. That didn't happen. It wasn't desired to happen. I think a tragedy took place in that the heritage benefit, particularly when tripled by the oil price rise, in terms of PRT taken to almost infinity for a while by the tripling of the oil price, was thrown away on financing unemployment. I thought that was a complete tragedy in the 1980s. There were lessons to be learned from Norway, which had an oil fund. There was even a lesson to be learned from Ian Clark, who was a colleague of mine. We didn't always agree but what he did in the Shetland, as has been said, was to try and put some of the benefit aside for the good of that community, the smaller community.

Finance Corporation for Industry established 1946 by the Bank of England, the London clearing banks and the Scottish banks, to provide loans to finance schemes above £200,000.

Arnold Weinstock, Director of General Electric 1963-96 and of Rolls Royce 1971-73 (Baron Weinstock of Bowden).

There was even the Scottish Development Agency, which didn't get all that much out of oil. I think it did rather a good job, personally, but then of course it got reorganised the way that always happens in this country. I believe some of us paid quite a lot of attention to what people tried to define as the national interest. Hindsight is wonderful. I can remember having a furious row with Arnold Weinstock* because he had learned that, whereas he was either the licensee or the joint venturer with General Electric (GE) in American gas turbines for offshore oil fields, I was about to place the first order that Rolls Royce ever got, deliberately with Rolls Royce, bringing them into the international field. There was a lot done, and a lot that wasn't done. I was gone by the time we saw what happened to the price in the 1980s. I believed, as the price tripled in 1979/80, that it was going to go on up. So did all the oil companies. We all believed it was going through the roof. Therefore it was important to know how to handle it and to have the means to do so. I think an instrument, an agency, whether BNOC or another, is important in those circumstances. You might say I'm practising that belief again now at the Strategic Rail Authority.

KEMP

Thank you very much Sir Alastair. I now invite comments and questions.

DEREK LYDDON

I wonder if I could follow on from what Gavin McCrone was talking about. I was the Chief Planner for the Scottish Development Department, concerned with the land use planning aspects of North Sea oil. In a way what happened on land almost warrants another complete seminar, because there were many different aspects and initiatives. One of these was the effect on communities and local authorities of uncertainty. At the start, the oil companies said they did not yet know where oil would be found or whether it would be pipelined ashore. The communities did not believe that. And then, when something was known, of course there was a need for an enormous speed. We now know that there's a discovery here and need to get pipelines ashore and so on, and that upset the communities. So a tremendous effort was put into communicating what was known, what was not known, and what was going to happen. Bearing in mind also that the communities found it very difficult to understand the enormous diversity of what was called 'oil-related development'. It could run from a pipe-coating yard, that maybe would be there for five years, to a platform constructing yard subject to individual contracts, or a full-scale refinery. So it was against that background that one of the first things that happened in the Scottish Office was that four bodies were set up to communicate what was known and what was being done. There was the Oil Development Council set up by the Economic Planning Council, with an Environment Committee. There was a Standing Conference of North Sea Oil, chaired by a minister, which the oil companies attended when appropriate. There was an Environmen-

One of the first policy statements made by Shetlands Islands Council, see J. M. Fenwick, 'The Shetland Islands: The Impact of Oil', in (eds.) William J Cairns and Patrick M. Rodgers, *Onshore Impacts of Offshore Oil* (London: Applied Science Publishers, 1981). Also, Sir Nevil MacReady, in his presidential address to the Institute of Petroleum in July 1980, stated that 'Surveys had shown that the public in general did not think the oil companies kept them informed, that they did not believe most of what oil companies said and that they considered the companies secretive and selective in the facts that they made available', see Linning and Larmerix, 'Forties Field Development: The Environmental Aspect', in (eds.) William J. Cairns and Patrick M. Rodgers, *Onshore Impacts of Offshore Oil* (London: Applied Science Publishers, 1981).

KEMP

LYDDON

tal Forum, which was chaired by the Countryside Commission for Scotland with all the major environmental bodies there, again to understand and communicate. These meetings produced a better understanding of the diversity and rate of development on land. Fourteen different communities were affected by the North Sea oil, from cities like Aberdeen down to the small-scale tiny village of Locharron near to the Kishorn platform yard. Between 1972 and 1975, five major terminals, six pipeline routes and 50 other major developments were given the go-ahead, given planning approval without a public local enquiry. There were approvals for 15 platform sites but only five went into production. This was a difficult aspect to communicate because, by and large, the operators of the platform sites needed a planning approval for a site before they could put in a bid for the contract. This was not always understood by the local authorities, while some of the developers related to oil had no experience of the British planning system. It's against that background that the Scottish Office produced national-planning guidelines, as suggested by a Select Committee on Scottish Affairs dealing with land resource use. These guidelines provided a coastal planning framework with preferred conservation and preferred development zones. They were accompanied by planning advice notes and information notes about oil developments.

Oil developments on land deserve another seminar perhaps, for which the following quotation might be an introduction:*

"This council, recognising that it may be in the national interest that Shetland shall be used for oil installations, and having sought to devise policies, and to provide machinery which recognises the national interest, while protecting those of the Shetland Community, will continue to have regard for the national interest, but will give no encouragement to developments and will oppose the proposals where these developments or proposals put Shetland at unnecessary risk, or fail to provide available safeguards, and will at no time put commercial or industrial interests before those of the Shetland community."

So wrote Ian Clark, who had one of the most effective developments of oil in his community, I think.

Thank you very much. I think I'm right in saying that your office wasn't always excessively compliant either. Aren't I right in my memory of the Drumbuie enquiry, that although the Department of Energy were very much in favour of the construction site proposal, you did take an independent line?

That's right. That platform was turned down by the Secretary of State after a public enquiry. It was an example of the first analysis in the UK under the heading 'Environmental Impact Analysis'. We imported it from America under their Natural Environment Protection Act. Drumbuie was the first Environmental Impact Analysis. We then did one for every other future site, and of course

it's now an EC directive.

KEMP

Thank you very much. I would now like to hear Sir John Guinness.

GUINNESS

I was actually more involved with developing North Sea oil and gas policy in the 1970s when I was mainly in the Central Policy Review Staff (CPRS), I did three-and-a-half years at the beginning, and was involved in all the discussions about taxation. Because I criticised the Foreign Office on the continental shelf I got made deputy leader of a Law of the Sea delegation, which I did for two years. And I then went back for another stint of 3½ years at the CPRS. On the first topic of the continental shelf, I think James Allcock is much too kind about what we did. The think-tank got a very distinguished international lawyer to produce a paper called 'Billions Down The Trough'. It made the argument that the line should be at the Norwegian trough and that's where I think it should have been. Tommy Balogh thought that this was such a good paper that he wanted to meet the lawyer concerned, and I introduced them. He thought it was such a good paper he told him that he, Tommy Balogh, was the author of this paper, which rather surprised the real author of that paper. So I personally think it was a great mistake. Leo Pliatsky said, 'I speak as a former diplomat, but you always know which side the Foreign Office is on: the foreigners' side'. And I'm not certain it was that bad on this occasion but I think we made a very grave mistake there.

Turning to taxation, I was involved in the very early discussions on the PRT, for six months the Inland Revenue were against having anything other than royalties. For international legal reasons we couldn't change royalty. And it took six months before the Inland Revenue said they had a principle, and I mean they invented their own principle, that you could have no tax, and it took six months actually to get the agreement that one should have a tax. PRT certainly wasn't a perfect tax, but, in my experience, it's usually better to tinker with existing taxes, rather than produce new ones because the tax lawyers would become involved. PRT wasn't perfect, but it wasn't that bad.

On participation I should like to make two points because, I think one thing hasn't come out, and I haven't seen it in the various publications. First, that had the Conservatives got back in 1974, then Lord Carrington, who was the first Secretary of State for Energy just before the 1974 election, would have developed a much stronger form of participation. He was committed to it and he was also committed to a higher rate of taxation, my understanding was. You then had a change of government and Harold Lever was put in charge.* After the first meeting of [Edmund] Dell*, [Thomas Balogh] and Harold Lever (in the chair), the finance director of Esso said to me that the Esso team could not have any conception what would happen at the meeting before they went in, and couldn't believe their ears when they came out. Because actually

Harold Lever, Labour Paymaster General, October 1969 to June 1970 and Chancellor of the Duchy of Lancaster, March 1974 until May 1979 (Lord Lever of Manchester).

Edmund Dell, Labour Paymaster-General, March 1974 to April 1976; Secretary of State for Trade, April 1976 to November 1978.

Harold Lever, in my view, totally castrated the idea of participation and he said we had better do a deal with him, which didn't amount to very much, otherwise we would have to 'deal with these commies on my right', Lord Balogh or Edmund Dell. He didn't call them commies actually but he said they were very unreasonable people. And I think Harold Lever totally undermined, for better or for worse, meaningful participation. The OSO was set up as a result of a joint study by the DTI and the CPRS. Now rightly or wrongly the CPRS thought that the DTI were rather slow in becoming interested in the industrial impact, or possible industrial impact, of the oil industry. Instead of being given a totally, and overtly, protectionist remit, it was given a rather subtle remit of 'full and fair opportunity', because no-one could object to that under the General Agreement on Tariffs and Trade (GATT). But it was undoubtedly a protectionist organisation for which I was responsible for quite some time. I personally think it is wholly justified for perfectly good reasons. British companies didn't know very much about offshore oil, but had there been no OSO, they never would have learned anything, because a natural and reasonable thing for the oil companies to do would be to go straight to Houston, and get all the experience there. And the British companies were built up, and did learn about offshore activities. This was the result of OSO which in my view would have never happened had there not been that policy. I don't think we got the level of PRT high enough. I am pleased that, with Tommy Balogh and Nicky Kaldor,* I was in favour of raising PRT ten per cent higher. Being in charge of oil and the Department of Energy the one thing you needed to have was a decibel meter, because one wanted to know how loud James Allcock, or Basil Butler, was screaming. And they were always screaming, but it was a question of how loud they were screaming. And the government were extremely embarrassed. Ian Henderson also. The government were extremely embarrassed that the oil industry didn't scream louder about the level of PRT, which was a sign they actually got it too low. And Healey, if you look at the Cabinet minutes that will come out soon, freely admitted this in Cabinet.

Finally, were the oil officials too close to the oil companies? I think officials should be close to industry but that doesn't mean to say you agree with industry, but you understand their point of view. And actually you can be a much better regulator, if you have to regulate or carry out policy, if you really understand the people you're dealing with, than if you're in total ignorance.

Nicholas Kaldor, Professor of Economics, Cambridge, Special Adviser to Chancellor of Exchequer 1964-68 and 1974-76 (Baron Kaldor of Newnham).

KEMP

Can I ask one point about PRT, namely the frequency with which it was changed?

GUINNESS

Well, people – the tax experts – learned ways round it. The government tax people learned some of the fiddles, let's say. I mean at one stage it actually paid any oil company to gold plate and the more

they could put on, the bigger allowances they got, and tax people were perhaps slow to wake up to that. I mean the general view of the Revenue is that they're always trying to get more tax out of people. In my experience that's totally wrong: they just don't want to change the tax system. The idea of a new tax on oil was anathema to them. The idea of a tax when agricultural land prices were going through the roof, they were unwilling to do anything on that. And I think there was a learning process both on the oil industry side and on the government side. And also with the price hugely varying, I was right that tax was tinkered with, but not basically changed.

KEMP

I think Charles Henderson should now give his perspective.

HENDERSON

Bear in mind that I wasn't really on the scene in a very influential role until the end of the period we're looking at, and that is 1980. I was a sidekick to John Liverman up until 1979. So most of my observations are not from an intimate knowledge of what went on in those early years. And they reflect a sort of semi-detached view. PRT may be an imperfect tax, but I don't think there is a perfect way of solving this particular problem. And certainly, in retrospect, the UK regime has been quite widely admired as being a very effective way of dealing with a commodity like this. Some of the variations have been because oil prices have gone up and the rent to be taken has increased. So it did prove to be a flexible tax, in a way, which was helpful.

A comment on BNOC: I was glad to hear Alastair start defending the role of BNOC. In 1979, when it was evident that the Conservative Government was intent on dismantling the company, I must say I had serious doubts and concerns. I thought, we cannot do without this body, it really would be better not to dismantle it. I was transferred to another job and came back three or four years later to the oil sector to preside over the final rites of winding up the downstream, the marketing side of BNOC. But I must say, at that time, and subsequently, I was surprised at myself, in the sense that I didn't seriously think we missed, at that point in the development of the North Sea, the existence of BNOC. It was an organisation which was needed, it had its day, and actually it was not inappropriate to start to downsize it in the early 1980s. For an alternative vision of a national oil company becoming over-mighty, look at Statoil, Pemex, and PDVSA. All these companies have become out of proportion to the objectives which were originally foreseen for them. And I think the same could, even with Alastair's guidance, have become a similar problem for BNOC.

MORTON

As I said it's the people that make the difference up or down.

HENDERSON

The last comment I want to make is simply a general reflection about the debate we've listened to today. A lot of this has been to do with whether the North Sea could have been – should have

been – developed in partnership with an independent oil sector, or should have been developed by the public sector. The choice was made to develop it with the private sector. It takes ‘two to tango’. In the end, the only real criteria for success for the government was to ensure that, in fact, the oil sector did co-operate and come in as a partner. We could easily have turned off the oil sector. We couldn’t afford to do that, having taken that decision. And the alternative one of trying to handle it in-house – drawing on my experience certainly of how we have managed public sector bodies in the past – would have been a disaster in terms of both the speed with which it was done and the effectiveness with which it was done. Now the only question coming out of this seminar which really does make me anxious is, actually did we try to go too fast? Was the policy of the speed of development one that was purely driven by Treasury views about the economy? Or was it actually driven by the need to get the companies to participate? Did we need to offer them a prospectus of a major opportunity to develop projects in the UK? Or would they actually have ‘tangoed’ with us, with a very much smaller prospectus? I don’t know the answer to that. Once you’ve set them on the road you can’t pull back.

KEMP

Thank you Charles. I would now like to ask one of our colleagues from Sheffield to say something.

PHILIP WRIGHT

Philip Wright, University of Sheffield. Ian Rutledge and I have had a long-term research interest in the UK oil and gas fiscal regime and its history. However, because our interest has mainly been focused on the post-1980 period, reading June Morris’s paper and listening to the fascinating discussion has been very illuminating. I’d really just like to make one general comment that seems to come out of the paper and the questions which it poses. I suppose, if I were addressing one of these questions directly, it would be number three. But I think that question should have a slightly different slant, because it seems to me that what’s happened with the development of the UK North Sea has been quite different from what’s happened with oil industries in most other countries. This difference centres on the fact that the UK government has never really thought through what a government position, as distinct from that of a private company, should be with respect to the development of a natural resource. What are the policy implications of sovereignty over a national resource – how should it be managed? This question has cropped up in a number of ways throughout the discussion, revealing that there was not ‘joined-up government’ and thinking about it. The only place where there seems to have been a clearly articulated ‘national’ policy was the Shetlands, rather than the UK as a whole, leading Peter Odell to ask, ‘Well, was the UK really a “Banana Republic” in this context?’ We certainly did not have the reflexes of a Mexico or a Venezuela or an Egypt in defining what our national interest should be. As a result, and from the

discussion this seemed clear, there has been a confusion of instruments with objectives, because the UK government's objectives, as distinct from those of the companies developing the North Sea, have not been discussed, set out and reflected upon on a long-term basis. For example, an instrument like BNOG was established, without, it seems, any clearly articulated view about whether this was a desirable way to secure the UK national interest in the North Sea. This problem shows up even more in considering the tax regime, which has been timorous, inconsistent, over-complex and there has been a lot of ad hocery. It has therefore also tended to be unstable. In our perception, the UK government has really abdicated the role of independently overseeing the development of the North Sea and submitted to the company perspective, such that it has often looked as if the government was actually doing project appraisal in the North Sea on behalf of the company interest, rather than establishing a differentiated set of government objectives.

KEMP

Okay, thank you. Basil Butler, would you like to comment.

BASIL BUTLER

Yes, thank you. I'd like to say a few comments. I don't want to get into the detail of the tax regime too deeply. PRT was a very complex tax. It was also actually rather distorting, but I did have rather a lot of fun in exploiting it by selling bits of the Forties field. Which was an entirely tax-driven deal and very profitable to my company I am glad to say. John Guinness remarked that I used to scream down the phone at him. I don't remember that, at the same time I don't remember ever agreeing with him about anything in particular, but that's another story. My comments about BNOG were made this morning so I don't think that I need to go into that again. But I would like to pick up the gas question because James Allcock and I are fairly well-known for having rather vigorous disputes in public on gas prices and things and I wouldn't want him to be disappointed today. He has said today that there was no way in which you could work out the price of gas in the North Sea. I don't think that is correct. There was a perfectly good way of pricing the gas, which was to not make it only available to a single buyer. And there's no reason why gas shouldn't have been an international commodity right at the beginning. Now we have the inter-connector which is very sensible, but we tried to advocate that years and years ago. And in addition to that there was gas bought from Norway, from Frigg, and I guess there must have been a price on that gas and the Norwegians would have sold it for whatever it was worth. And I can't see really why that couldn't have set the gas price in the UK. It was actually very convenient for the Gas Council, and British Gas later on, that the Norwegians had so much of the North Sea because they were able to buy a certain amount of gas from Norway at a price. But it put them in the position of having a base supply of gas into the UK system, which enabled them to screw all the local producers in the UK. And I think that

that was not a very successful way of operating. We should have had a proper international basis on the supply of gas, and the pricing of gas, right from the very beginning. And it could have been done very easily; it would have actually accelerated the development and use of gas in the country.

KEMP

Would you like to respond James [Allcock]?

ALLCOCK

Well this could go on all night. I'd rather confine myself to generalities this afternoon. I should like to cover two questions: one is the getting of the revenues from the North Sea, the whole argument about speed governing policy, and so on, is one thing; and the use is another. Now, I have nothing useful to say about the use. Michael Posner was talking about this, the sort of macro-economics about what you do with revenues, what do you do with the black gold? I don't think about this. But actually I do think that the story about the getting of it is very good. And this afternoon I haven't heard any reference to Angus Becket, Under-Secretary, Ministry of Power, responsible for UKCS licensing policy. Maybe he was referred to this morning, I can remember going into Angus Becket's office, and he had a great map on the wall, with all the blocks, and he handed them out at his discretion. Now thank God for a pro-active civil servant who got something done. And it seemed to me entirely intelligent to start with an easy regime on those who you wanted to explore. After all, in the early 1960s, we learned that there were herrings and salt water in the North Sea; nobody knew if there was anything else. But, we wanted to find out. So people were encouraged to find out with a lax regime that would be tightened gradually; and that's exactly what happened. Then you've got BNOG public participation. I think the development of policy on the development of the North Sea, and the argument about gas prices is an argument within that, that I'll talk about all night if you wish. I'm sure you don't wish, but I do think the getting of the revenue is an extremely good story. The government working with industry, both the oil companies and British Gas, got this off the ground at an enormous pace. If there was one constant of British policy through changes of government it was the maximisation of North Sea development, for macro-economic reasons. I think that was hugely successful. I think the whole story of developing the North Sea has been by and large hugely successful. But what you did with the money I'm not competent to judge.

KEMP

Thank you James [Allcock]. Does anyone have something really burning that they would like to say before we finish?

MORTON

Talking of something burning, I wanted to talk about two aspects of using gas. One was the prospects for the gas turbine, and particularly the combined-cycle gas turbine, when did it become apparent that it would be very useful to generate electricity from gas? I

wanted to ask about that in terms of the decision by Wedgwood Benn to build the power stations at Torness and Heysham, because the investment in nuclear power would obviously be alternative to exploiting the gas and oil. And I'd be very interested to hear from the panel whether they were aware of any explicit policy decisions about using nuclear power versus oil and gas?

KEMP

The question of not allowing gas to be used for power generation is a very good one, and the issue of getting more gas from the North Sea and the effect it had on nuclear power is also interesting.

GUINNESS

Sir Denis Rooke, Chairman, British Gas (formerly Gas Council) 1976-89 (Deputy Chairman 1972-76).

Dealing with the first aspect, there were two bits of conventional wisdom: one that the EU prevented us from having gas-fired power stations, and when I took over responsibility for the electricity industry, in the mid-1980s, that was certainly conventional wisdom. And there was the second doctrine of Denis Rooke* that gas was the noble fuel which, regardless of the EU one should not burn in power stations. My first letter to the Central Electricity Generating Board (CEGB) was, 'What about having experimental combined-cycle gas turbine (CCGT)?' And John Baker replied, 'Well, perhaps in about two years time'. So it was in the mid-1980s that we realised we could do it on a case-by-case basis, and we started to move in that direction, and probably are moving too far in that direction. On the nuclear question, I can't recall the details. I think there was some belief that you would have lots of nuclear stations at that time. It was before gas was considered a possibility, because of the EU and because it was a noble fuel and Wedgwood Benn was in favour of having Advanced Gas-cooled Reactors (AGRs) and he was desperately against having a Pressure Water Reactor (PWR). But that decision was taken quite some time before gas came on the scene as a realistic option. About five years before, or seven years before.

KEMP

I think John [Liverman] would like to say something.

LIVERMAN

If I can make one point, which I think has been a little overlooked, concerning the pace, the 'mad rush' and whether we get credit or the reverse from it is not my point. But it has been suggested, by a couple of speakers, that the motivation for this speed was Treasury directed, or something to do with macro-economics. But I've worked for lots of ministers, different Secretaries of State for Energy or whatever, and I don't think they knew what macro-economics meant; I'm not sure that I do. What they were worried about was a shortage of oil. And I think some of the audience would be old enough to remember petrol rationing. We all know that ministers are very sensitive on this score: they don't like to upset motorists. And there was a simple concept, grossly over-simplified in the minds of most people throughout this period. This was that, if we can become self-supporting for oil, it doesn't matter

what happens in the Middle East; we won't have to ration petrol. And unless you understand that that was a dominant feeling in the back of minister's minds you haven't got the right picture.

PRICE

John I think you can also say that in 1973/74 petrol crisis petrol coupons were actually issued. They were never used, but they were actually issued.

KEMP

Okay, would anyone else like to make what the lawyers call a closing remark?

MORTON

I would turn to what James Allcock said about the development saga, the physical development saga. I think is a great credit to a lot of people. I really do, starting with the civil servants, and I think what we did with it is what history will judge rather less favourably.

IAN RUTLEDGE

I understand that this seminar was conceived very much along the lines of the title put in front of me, the 20 years 1959 to 1979. And it does seem as though we have spent a lot of time looking at the past and I think that's been very informative. I've certainly learned a lot from it and I've been extremely interested and entertained by the contributions that have been made. I do feel, however, that we mustn't forget that the industry is still there. In fact not only is it still there, it is now producing hydrocarbons at a higher rate than it has ever done before. We have a proportion of the hydrocarbon production which is exported which is higher than ever before. I do feel that perhaps we need to have another seminar and see what's going on at the moment. Most importantly of all, I do feel that we need to address the issue of the fiscal regime. I will be very brief about this. Some of you have heard me on this hobbyhorse before, but it does seem to me to be quite unacceptable that, since 1993, any new developments don't pay anything whatsoever. There is no payment whatsoever to the owners of the natural resource, the public body, for the use of the natural resource. PRT wasn't a perfect tax, but at least it was something. Royalty was abolished, that's gone. All that an oil company pays now is corporation tax, but so does every other company in Britain. Effectively it's like renting, having a piece of land and getting it rent-free and really that is not an acceptable position. I hope we do something about that. On the last few questions on the list, I will be really brief. Should there be a special oil fund for the North Sea windfall? Yes. To what extent were the tax revenues from North Sea exploitation used to finance Thatcherism after 1979? An awful lot. Have the benefits of the North Sea been wasted in Britain? I think, if we ask our grandchildren what they can see of the oil industry – maybe I'll ask my grandchildren in ten year's time what there is to see – it'll be very difficult to point to anything. I think that's a great pity. Maybe we

need to erect some kind of folly that will show people that the industry actually existed because, other than that, I don't think there'll be much for them to observe.