

**Earth Science Education Forum – Cymru
Launch 24th January 2006, 7.30pm speech by
the First Minister, Rt Hon Rhodri Morgan AM**

Transcript

I am very pleased that the launch of the Earth Science Education Forum Wales is taking place at the National Museum of Wales in Cardiff.

The National Museum of Wales is well known internationally for the quality and relevance of its displays and exhibitions. We are very proud at the Assembly government, that it forms part of our network of cultural organisation, because it holds the national collections of Wales, and last year one of its 8 sites with perhaps the closest relevance to Earth science, namely the Big Pit National Coal Museum in Blaenavon won the Gulbenkian award for the “Best Museum of the Year” in Britain.

I would also like to mention the new Waterfront Museum in Swansea the eighth arm of the National Museum of Wales, a £22 million investment.

Both the Big Pit Museum, the Coal Museum in Blaenavon, and the Waterfront Museum in Swansea are part of trying to ensure that our younger generation of today understand what has made modern Wales.

You can't understand modern Wales unless you understand the importance of the way its geological history was able to contribute to the surge of prosperity which led to the industrial revolution. This occurred at roughly similar times in parts of the West Midlands and Wales, and then leading on to the period when the price of coal was settled by very distinguished gentlemen in the Coal Exchange in Cardiff, and the price of copper worldwide was being settled in a business premises in Swansea.

And if you don't understand that, you don't understand the kind of country that we live in and you don't understand what led to all that smelting of non-ferrous metals in the Rhymney and Rhondda Valleys area and then you don't understand what led to the huge development and the eventual decline of the coal province of South Wales. The museums tell that story and we need young people to understand that story and I hope the Earth Science Education Forum will help to do the same.

The Museum is also well known for its art displays, especially for its Impressionist galleries. Its Impressionist galleries with all the wonderful paintings by Cezanne and Renoir were funded by Lord Davies of Llandinam's daughters, Margaret and Gwendolen, who had the money given them by their father to buy the paintings from France, at a time when he had far more money from coal profits than your typical Frenchman who might otherwise have been buying up all the Cezannes, Manets and Monets.

But undoubtedly it's because the coal money was fuelled into cultural activities in the same way that the coal money was fuelled into the rising self-confidence of Wales that led to the setting up of the universities, at Aberystwyth through the “pennies of the people”, and the National Museum of Wales. Also, the Reardon Smith galleries, funded by shipping money by a

major donation from Reardon Smith, one of the great coal-shipping families of Wales, and one of two companies left of the hundreds of shipping companies that had their headquarters in Cardiff at the turn of the 20th century, and many more in Barry, Newport, Port Talbot and Swansea.

Let me just refer to how important Earth science is in this museum. The Museum is a centre of significant research in the Earth and natural sciences and is not just about public awareness-raising, as in every museum, but it is also about international research and has produced major publications relating to contemporary issues in this field. These have related to landslides and their management, and on geo-engineering projects throughout Wales and their impact on the environment. It is also engaged with the British Geological Survey on a study of the sea-bed in the Irish Sea which we, the Assembly Government, are part funding.

This is very relevant to the theme of that brilliant lecture by Professor Pearson, which I am sorry I only heard a part of; the Museum is also specifically involved in the study of climate change. Staff here are involved closely in a joint project with Cardiff University to interpret past sea-water temperatures and also in a study of the Coal Measure forests which forms the basis of our past industrial wealth.

The museum is coordinating a five-year research project involving scientists from 13 countries. And I also think it is highly significant that the museum as part of its recent visioning exercise, has noted as one of its priorities its wish to inform and debate on contemporary issues and in that respect we can look forward to far more events like this being held here. You can't get a more relevant topic than the way Professor Pearson's lecture was trying to link what you learn from past records to the estimation of what is going to happen for the rest of this century, and how that might guide public policy.

When you reach my age and have grandchildren, when I hear the year 2100 mentioned the year 2100, my reaction is quite different to what it might have been 20 years ago - well, I'll be dead and buried by then, so long after my time it doesn't matter - then you start thinking it is just possible that my recently born grandchildren might just be alive then. You know actuaries say that the average Japanese little baby girl born in the year 2003 will soon be able to live to the age of 100, the average age expectancy is 97, so 2100 is no longer an utter irrelevancy to people of this generation and so you are bound to be guided as policy makers by what is going to happen to your children and their children who have already been born and those about to be born.

So it is very important that we try to relate the study of geology and other aspects of Earth sciences to guide policy makers today, particularly those key issues about the future of the planet.

And we have a proud record Wales in the study of geology. It always strikes people who have interest to our history, as to why the major rock groups Silurian, Ordovician or Cambrian are actually named after either Wales as a whole or tribes who were dominant in Wales in the Roman era. The Silurians were in the South and the Ordovicians were in North Wales. This is because Wales was the stamping ground for many of the great figures of geological studies, 100 or more years ago.

But of course that is still relevant today and now there are only two A level examining boards that still teach A level geology. The Welsh Joint Education Committee is one of them. I am glad that A level geology is still something that the WJEC are offering. Of course the WJEC will offer them as an examination to any school in the UK, but I am glad that if there is shrinking in the teaching of Earth sciences, it hasn't shrunk and disappeared in Wales.

And that's for obvious reasons when you think about the way in which youngsters in Wales will perhaps relate to their knowledge about coal in the valleys of south Wales, slate being such a massive resource across so much of north west Wales, and iron ore deposits even only 5 miles north of here, where I used to explore when I was a child.

But obviously there were much bigger deposits along the outcrop from Merthyr to Blaenavon. The non-ferrous metals like copper in Parys Mountain, Anglesey is being investigated again as to its commercial possibilities and the old copper mines you can see in the Great Orme, Llandudno and Sygun in Snowdonia. Coal, gold, silver and lead mining can be found all over mid-Wales and obviously as I mentioned earlier, the Rhondda valleys. We also have a history of tin mining and all the different alloys that were made out of them. And whereas the steel industry is no longer a big employer, it certainly is a factor in our economy; likewise, quarrying for building stone, aggregates and cement and of limestone for the production of steel and so on. We need to ensure that all of those industries have a qualified workforce of skilled workers, geologists, mining engineers and technicians.

And we still have mining courses or Earth science courses at:

- Swansea
- Aberystwyth
- Cardiff
- Bangor
- and of course the Glamorgan School of Mines –as I knew it –which is what we now call the University of Glamorgan

If you ask a very elderly person in the neighbourhood “Can you direct me to the University of Glamorgan?” they don't know what you are talking about. If you mention the Glamorgan School of Mines, they say “Oh, the Glamorgan School of Mines, yes, we know what you are talking about”

But the demand for Earth scientists is just as great as before. The question is whether we are going to be supplying that demand or whether the drift away from the natural sciences and mathematics and engineering is going to continue. Therefore it will be Earth scientists coming from other continents who will have to fill that gap, whether it is Latin America or Asia.

Obviously we want to see the need continue to be supplied from the Welsh educational system of schools and universities and colleges. It is not all about just simply working for the National Coal Board as it would have been 30, 40 or 50 years ago, we are now talking about a much wider range of industries and professions, and new professions where understanding of Earth science

is still immensely relevant. If you think of:

- on-shore and off-shore old fields
- nuclear waste disposal
- environmental impact assessments
- planning in local governments
- implementation of the EU water directives
- flood control
- disaster prediction and control

And, above all, the study of major forces of the Universe over the next century and more, which was the subject of the Professor's lecture.

So it is absolutely vital that we, the politicians, have a sound knowledge of the basics and that we get the best advice from our best scientists and technicians and engineers in this field of Earth science and the fields linked to it, such as:

- Renewable energies
- Environmental issues, conservation and geodiversity
- Sustainable development
- And the impact of natural disasters, like the natural tsunami which happened 13 months ago in the Indian Ocean off Indonesia.

Yes, science is difficult compared to some softer subjects, but it will never be irrelevant, probably because of increasing relevance to the systems which control the globe. It informs the political action required to try and maintain sustainability in the globe that we depend upon to inhabit. It depends on interaction between public policy making and expert advice. That expert advice depends on expert education of people coming through that can advise politicians of my generation and perhaps even more important, politicians of succeeding generations.

Now, even today where we have issues like "Where's the pipeline going to go?" I tried to relate what the professor was saying, to the kind of things that are in the newspapers every day or that we debate in the Assembly or as Members of Parliament.

It's freezing in Russia, so we think oh that that's alright, it means global warming can't really be happening. It is the coldest winter there for 37 years. They are falling over in the Australian tennis championships in Melbourne, because it's 43 degrees centigrade there and 48 in the centre of Australia, so we say global warming is still happening. It's just happening in a peculiar way, where you get extreme temperatures in northern and southern hemispheres at the same time.

The fear of a Russian Siberian winter coming to Europe would be that we do not now have adequate gas supplies from the North Sea. The impact would be that our big industries would have to be switched off in rota.

And that would be because we don't have enough gas to keep homes warm and our big industries supplied at the same time, although things perhaps will

not be so bad when the new NLG importation facility is available in Milford Haven.

But in order to do that we will have to build a new pipeline which would have to be routed through the Brecon Beacons National Park. It's either got to be routed north or south. Who do we depend on to give us advice as to whether it should go north of the Brecon Beacons or go south? - Earth scientists and the other environmental scientists linked to the Earth scientists. They have to say where is the best place for this pipeline to go and they have to do it very quickly, they can't spend years deciding this so you need to have expert knowledge.

Then of course it's against this background that the Brecon Beacons National Park has now got Geopark status. That doesn't mean that you can't build a pipeline on the southern fringes of it or the northern fringes of it. We have to recognise just how important that Geopark status is for the Fforest Fawr Geopark, which was designated by UNESCO as part of the Geopark network only last October.

And likewise we are very proud to have the Dan yr Ogof cave complex to which I am sure you have taken your children or grandchildren. If you haven't, I would be absolutely amazed. 12,000 school children in Wales receive free educational access to that cave complex through the support which they have been given with the management costs by the Countryside Council for Wales, which is part of the Earth Science Education Forum; This has helped to keep open that amazing natural geological phenomenon. It is a nature reserve and the site goes from strength to strength. Last August it won the prestigious title "Britain's Finest National Wonder" in a national competition organised by the Radio Times.

What we always say when you have those competitions run by the Radio Times or run by the BBC, it would be impossible for any Welsh entrant to win because of our population. You knew that in any competition between Darren Gough and Colin Jackson, as to who would be the best dancer. Darren Gough would win, but on this occasion Dan yr Ogof cave complex did win as "Britain's Finest Best natural wonder".

So there is every reason why we are right to celebrate the launch tonight of the Earth Science Education Forum Wales.

It has been a pleasure to talk to you tonight.

It has been a pleasure to listen to at least the second half of the lecture.

It's good to see old friends like Allan and see others in the audience as well.

So thank you very much and 'thank you', in Welsh – Diolch Yn Fawr.

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