



THE LEARNED SOCIETY OF WALES
CYMDEITHAS DDYSGEDIG CYMRU

CELEBRATING SCHOLARSHIP AND SERVING THE NATION
DATHLU YSGOLHEICTOD A GWASANAETHU'R GENEDL

Annual Address by The President

Sir John Cadogan CBE DSc FRSE FRSC PLSW FRS

Delivered during the Society's Annual General Meeting

22 May 2013

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This is the third birthday of the Learned Society of Wales. Which raises questions: What have we achieved? Have we made a difference?

At the outset we said that our aim is to be a champion for excellence so that Wales could come to be seen, justifiably – I repeat justifiably – as a small but clever country. We saw our Society as a radical initiator of beneficial outcomes and a force for inhibiting damaging decisions based only on belief. Our advice and comments might well be ignored but at least these sound opinions would be there for all to see. My personal view is that the Society has achieved much more than I thought possible at the beginning.

That we have been able to make such progress owes much to generous financial support from the University of Wales. They have then stood back and encouraged, nay demanded, us to get on with our independent agenda. This support led directly to the foundation of the Society. I feel that here I must record the role of Mr Huw Thomas, Professor Marc Clement and Mr Alun Thomas, officers of the University of Wales, for their efforts right at the start in bringing this about, as well as the subsequent and continuing role of the current Vice-Chancellor, Professor Medwin Hughes.

Coming to today I am glad, also to acknowledge the commitment of significant financial support from the Universities of Cardiff and Swansea. This is a very important milestone on the road to financial security which is essential

for the future of the Society. I am grateful, too, to those Fellows who have made donations - and to those who, hopefully are thinking of doing so.

Nevertheless we are working hand to mouth - and the load on our only two members of staff is very high. Dr Lynn Williams and Dr Sarah Morse have to do everything from filling 300 envelopes to Fellows, to backing up the lecture programme, servicing the work of Officers, the Council and its committees and everything else. They keep the Society going. Now with the welcome support from Cardiff and Swansea we will be able to move some way towards backing them further. Because there is much to do.

We have heard from our General Secretary John Tucker about the all embracing programme of lectures and events which have taken place this year. And here I thank the universities involved for their help in kind. We will soon be mounting joint meetings with the British Academy (on devolution), The Royal Society, The Academy of Medical Science and the Foundation for Science and Technology (FST).

We have close relations with the South Wales Institute of Engineering Educational Trust (SWIET2007) and the FST meeting will coincide with the award of the Society's Menelaus Medal, sponsored by the Trust, to Sir Terry Mathews, who will be speaking. These organisations have never before held meetings in Wales. All of these events help in raising the profile of Wales by bringing the World to Wales, as it were.



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Continuing this theme, the Society's existence as the first and only pan Wales independent national academy of recognised substance is now adding value to the voice of Wales nationally and internationally in two other important ways. Before we came into being, our best researchers and scholars could look only to other national academies for recognition with loss of visibility of Welsh genesis, Welsh connection or Welsh influence.



Professor John Tucker FLSW, General Secretary of the Society

And – crucially – the previous lack of a Wales presence in the international community of national academies had a negative effect. It meant that the UK, the European Union and international grant giving bodies had no independent body of stature in Wales to turn to for soundings or formal contact when formulating policies which had effects on Wales. Thus, the interests of Wales were overlooked through lack of visibility.

This is now no longer so. The importance of this contribution of the Learned Society to the good of Wales cannot be overemphasised. For instance, EPSRC suddenly and ridiculously announced that henceforth applicants for grants “would have to clearly indicate the value to the community of their proposal over a 10-50 year time scale”. I therefore wrote to Mr David Willetts, Minister for Science, on behalf of the Society, to demonstrate that this was a nonsense in terms of the reality of scientific research and discovery – that discovery cannot be planned and that attempts to do so were not only futile but highly damaging. And that this would be a recipe for short termism. That we scientists know this but they don't is very worrying. In this protest we were joined by others with the result that EPSRC backed down. We will be meeting Mr Willetts next month to discuss this and other issues. But to be effective we have to be seen as independent champions for excellence – excellence rooted in our Fellowship.

We began with a very distinguished group of some 60 Founding Fellows including 23 FRS and 24 FBA drawn from inside and outside Wales. To these fell the task of nominating the subsequent Fellowship. And it then fell to our two Vice Presidents, Professor Dianne Edwards and Professor Wynn Thomas, to put in the demanding work of overseeing the selection process. We expected at the beginning that it would take at least three years to work through the back log of people deemed worthy by peer review to have been elected earlier had the Society then been in being. This will be put to the next meeting of Council.

Our recent election of 69 Fellows brings the Fellowship to a total of 314. It is the opinion of the Officers that the time has now come to impose an annual cap at a lower level on the number of Fellows to be elected.

So what of the Fellowship now in place?

First, I congratulate the new Fellows just elected. Some are here today. You have joined a body of scholars and researchers remarkable for spanning almost all disciplines from Welsh history to anti-matter physics, from economics to electronics. It is the first time that such a resource has been created in Wales. This is a network not constrained by institutional or political barriers- and one that may be mobilised under one canopy for national and international impact. It is also a network reaching far beyond that previously available to Government and now it is there to be used. It makes clearly visible the impressive research record and potential of the nation.

And visibility of this record is needed. There have been too many unchallenged derogatory remarks made about our universities ranging from “The Universities are not fit for purpose” to complaints about poor performance in research council competitions. This is known as shooting oneself in the foot. Unjustified bad-mouthing of the universities can hardly increase their attraction to the best staff and students, students on whom the universities now depend for a large proportion of their income, not to mention their vital contribution to the economy of Wales. Remember that the evidence is that, once Welsh students leave Wales, most are unlikely to return.

In this connection the recent Consultation on the White Paper on Further and Higher Education Bill (Wales) 2013 contains statements which puzzle the Society, to say the least. Extraordinarily it states that “We do not believe in driving up quality on the basis of competition and customer choice” But its very decision to transfer very large proportion of university funding into the hands of the students has created a phalanx



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of customers (particularly in Wales) who can now shop around for the best courses and universities as they see them, taking the money with them. The less successful the Welsh universities are in this Government-created competition the greater the threat to their financial integrity and thus to their ability to compete in the market.

On the upside it also means that universities will have to ensure that they are providing value for money for the students – and that is not a bad thing at all. This market is there and knows no national or international boundaries. We need our universities not only to be able to attract foreign students with their substantial fees but also to retain our best students in Wales. Already in English universities there is no cap on numbers of students with ABB at A level so they can take in as many as they wish. And already we know from published tariff scores that many of our highest qualified students are already choosing to leave Wales for what they perceive as better universities.

Our universities are not parochial institutions operating inside a small iron ring fence, nor should they be. They practise on the world stage and, though Ministers wish it otherwise, according to their proposed Bill, they are in competition for and to be the best. If being in denial of the market, which Government itself has now created, leads to universities not competing on this basis, it is not good news for the only national resource of the highest level of learning, teaching, research and scholarship in this small country of ours.

The Learned Society has several times shown before the advent of the new funding regime that the universities were already handicapped enough by significant underfunding compared with competing universities in England and even more so compared with Scotland. Remember the figures. The cumulative funding gap on a like-for-like basis between Wales and Scotland for 2000-2009 was £1.06 billion. That was in the money of the day and therefore much worse when inflation is taken into account.

There is also another less visible worry lurking in the new fee structure. In most cases the quantum is sum is adequate to teach students in the Arts, Humanities and Social Studies but it is certainly not enough to cover the costs of producing scientists and engineers properly supported with equipment, materials, laboratories and computing. One size does not fit all. It remains to be seen how our hard-pressed universities will handle this.

In considering the facts rather than unfounded beliefs it has become clear to the Learned Society that despite the relatively low funding of the universities since devolution, the

universities have done surprisingly well on the research side. The numbers have been well set out in the paper published by the Society which has been written by one of its members of Council – Professor Robin Williams.

In particular the facts show that in terms of impact through world wide citations and in terms of interaction with business, Wales performs well by national and international comparison. But this is not to deny that we have some way to go. Just think what could be done with just half of the funding available in Scotland, which has 4 universities in the world top 200. Why not try to reinforce success?

But it is more than about numbers. The actual outcomes of the research are remarkable and fascinating. The Society is preparing a list of research and scholarly achievements of the universities, most of which have been invisible to the public and to the politicians who serve the public and control expenditure of their taxes in their name. I would need several hours to go through them all so I will mention only one, purely because it is close to my home. For over a century, on approaching Swansea from the east one passed through a desolate moonscape, rendered infertile by the industrialisation which made Swansea the Copper capital of the world. The remarkable leadership of Biologists and Geographers at Swansea University directly led to the splendid ecological vista which we see today and which was a world wide milestone in regeneration of wastelands.



Repeatedly the Welsh Government has said with respect to the universities “the twin drivers are delivering social justice and ensuring a buoyant economy” – nothing in this mission statement about excellence in teaching and research. It should be there as well. Having said this there are signs of the tune changing, notably through Sêr Cymru coming from the Business and Science Department rather than the Education Department.



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Whatever excellence lies in Wales undoubtedly depends to a large part on the universities. It is vital that this excellence is not only maintained but expanded in competition and collaboration with other centres of national and international centres of learning. And to collaborate with excellent people it is necessary to be excellent oneself. But a word of reality about collaboration, rather than unfounded theory. We are hearing a lot about collaboration. It is coming to be seen as the prerequisite for success and funding is tending to be skewed that way. This is particularly so by those familiar with accountancy rather than scholarship and who press for this to be the norm.

This is usually in the belief that collaboration is cheaper and more productive than is individuality. It also smacks of planned discovery which as I have said is impossible. Of course there are benefits in collaboration in cases of teaching, sharing of equipment and certain big research and development projects. But certainly it is not always so and nor should it be. Indeed many of the great discoveries in science and of scholarship in the arts and humanities have been born of individuals. In my experience such individuals, if their research needs it, go out and find the most suitable collaborators wherever they reside. In my case the only time I collaborated with anyone outside my team was with a researcher in Texas.



Professor John Wyn Owen FLSW, Treasurer of the Society

Such individuality should be sought out, encouraged and protected. So in research and scholarship one starts with the individual, out of which collaboration may or may not come as needs be. In this respect the Sêr Cymru scheme is excellent in its intention to attract star individuals to Wales.

In development of big projects it can be different. There it makes sense to start with the setting up of a multidisciplinary team. As our Vice President, Professor Wyn Thomas, has

said, much of the outstanding work in the Arts and Humanities has been accomplished by lone and frequently obsessive individuals and there can be no substitute for the creatively productive whims, quirks and intuitions of an individual's wholly engaged and unpredictable imagination. And the same can certainly be said about science and engineering.

Think of the laser, the ozone hole, the world wide web, penicillin, liquid crystals, Lovell's radio telescope, new materials starting with polythene and nylon, monoclonal antibodies, all forms of spectroscopy from microwave to magnetic resonance imaging, the cracking of the structure of DNA – and countless others. All of these came from individuals driven by curiosity rather than by some directed programme. The time for a directed programme is after the previously un-thought-of discovery has been made. There must be room and support for these creative and unpredictable people.

In our small Wales it would be an advantage if such creative people happened to be working in areas which might underpin areas of importance – areas where we already have some recognised industrial strength. This is far from saying that they should be looking at solutions to short term problems in aeronautical engineering or in Agriculture, say. But it does mean supporting and encouraging strategic research into advanced materials, computer-aided design, 3D printing, stem cells, immunology, catalysis, studies of the solid state and – dare I say it in Wales – genetic modification in the biosphere.

In the last-named case just reflect that we have already lost the Elm tree-we are losing the Ash and the Oak is said to be under threat. To lose all our trees would finish us off much faster than global warming. Genetic modification in this neglected area is the answer. Remember what the far-sighted director of research for Astra Zeneca said:

“We don't much care what university researchers are doing as long as they are brilliant people training brilliant students and making discoveries previously not thought of in areas of strategic interest to us. And most of all we want to be close to such people.”

And Astra Zeneca put its money where its mouth is a few weeks ago by closing its splendid laboratory at Alderley Edge and moving 350 researchers to a new lab in Cambridge. Returning to our universities, integral to their production of new knowledge is a real and concrete output which is teaching and supervision of some 61,000 students at a cost per head which is greatly and dangerously lower than in any other sector in Great Britain. And don't forget that these students bring a lot of money to the economy.



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The universities are the producers for, and guardians of, the future of the Nation. The universities are here to push back the frontiers of knowledge through research and scholarship by outstanding people of international standing. It is a fact that having these people not only leads to new industrial starts but attracts high value industry which wants to be close to such a resource. And then follows positive impact on the local – and, indeed – national economy. Just look at the Astra Zeneca case which I have already mentioned.

The universities also have the massive responsibility of training the young by passing on knowledge and expertise and for stretching their minds. They have the unique task of ensuring that the young develop peripheral vision – to see beyond their particular task or activity. Most importantly they must ensure that the young automatically, without thinking, come to act on evidence rather than on opinion and dogma, to challenge opinion based on their analysis of the facts and to seek evidence where none exists. Unless these factors are uppermost and are the key drivers, the balance will shift away from freedom, creativity and excellence. A prerequisite for this is that Government is kept at arms' length from the universities with regard to what and how they teach and research. Heavy handed state control is the first step back to an age of 'endarkenment'.

With this in mind the Learned Society has studied very carefully the consultation White Paper relating to the Further and Higher Education Bill. We were very pleased to see reported that the Minister in charge has no plans to interfere with course curricula. But I suggest that this report in *Research Fortnight* is not sufficient. The principles of non-interference and university autonomy should be written into forthcoming legislation. But what of the future if it is not so written? The Society is concerned that there are real dangers in Government's wish to write into law that it should have the power to directly fund Higher Education partnerships and collaborative activities in "strategically appropriate circumstances", without reference to independent knowledgeable experts in HEFCW or elsewhere. Why do this if it doesn't want more control of what our universities do? The arms' length principle under which British universities have always operated with great success will be severely damaged in Wales, but not elsewhere. It is a question of whether particular politicians are better equipped to decide on strategic matters of scholarship, teaching and research, than are expert practitioners operating under conditions of international scrutiny and comparison.

Government already has considerable and proper sway in these matters through its annual remit letter to HEFCW. It also, quite properly, has the power to directly allocate funding strategically such as in the welcome decisions to create a

second medical school in Swansea and the recent Sêr Cymru initiative for Welsh science at £10 million per annum and the Coleg Cymraeg Cenedlaethol at £3.5 million per annum. Taking matters into law will give future Governments unprecedented power to "strategically" decide what subjects should be taught and what should be researched solely on the opinions of politicians and their paid servants. It would then be a short but disastrous step for future Ministers to wish to control content and examination grades in the subjects they had established the right in law to oversee. We have already seen intervention in the matter of GCSE grade boundaries.



Handing much of the funding of our universities to the students has already much reduced HEFCW's capacity to influence the universities. The proposed new legislation takes away from HEFCW even more responsibility for the sector. It could be tempting in the future for those with more control and micro management in mind to do away with HEFCW altogether and run it all from Cardiff Bay. The fate of the Welsh Development Agency is a precedent.

Political control of scope, content and evaluation in the universities should be specifically excluded from any forthcoming legislation. These must remain within the control of the universities which, as I have said, will remain driven by international standards of excellence. This is about the very nature and purpose of our universities, about who owns them, about the concepts of university autonomy, academic freedom and accountability, about the challenge of university governance and about the role of the state.

It is the view of the Learned Society that these are by far the most important issues in the White paper.



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