



**Address by Ned Costello, CEO, Irish Universities Association  
at the President's Research Awards, Dublin City University  
1 February 2007**

**On the theme of**

**Changing Ireland ~ Universities and the Creative Society**

Good morning President, ladies and gentlemen. I am very glad to have the opportunity to speak to you here today at the President's Research Awards. My undergraduate education took place just down the road in your sister institution St Pats so suppose I have acquired a certain connection to DCU since the two institutions linked up!

A couple of years ago, I attended a lecture at the Royal Irish Academy on the subject of the work of the famous Irish physicist John Bell, centering on the matter of quantum entanglement. The author Brian Clegg<sup>1</sup> has described the phenomenon thus. Entanglement is a strange feature of quantum physics, the science of the very small. It's possible to link together two quantum particles – photons of light or atoms, for example – in a special way that makes them effectively two parts of the same entity.

The whole fascination of entanglement is of course the idea that a change in state of one tangled particle will be reflected in the other even if the particles are separated in space. In a roundabout way, the lecture brought me back to my English literature studies in St Pats and one of my favourite poem's – Donne's A Valediction Forbidding

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<sup>1</sup> [http://www.calitreview.com/Interviews/clegg\\_8029.htm](http://www.calitreview.com/Interviews/clegg_8029.htm)

Mourning<sup>2</sup> in which Donne compares he and his lover's souls to the arms of a compass saying:

Our two souls therefore, which are one,  
Though I must go, endure not yet  
A breach, but an expansion,  
Like gold to aery thinness beat.  
If they be two, they are two so  
As stiff twin compasses are two ;  
Thy soul, the fix'd foot, makes no show  
To move, but doth, if th' other do.

Donne's undoubtedly inchoate but nonetheless metaphorically accurate preemption of quantum entanglement served to remind me of the false dichotomy which is too often drawn between the arts and the sciences. The term "scientist" itself is, of course, of relatively recent coinage only supplanting that of "Natural Philosopher" in past couple of centuries. The etymology of that word philosopher – "philos" and "sophos", lover of wisdom reminds us of the "eternal golden braid", as Douglas Hofstadter<sup>3</sup> put it, that connects all academic endeavours.

Having started on a note of constancy, I would now like to say a few words about change. Having just made the transition from the Department of Enterprise, Trade and Employment to the Irish Universities Association, change is very much on my mind at the moment!

And before I talk about the future I would just reflect a little of my experience in my old career. As a central economic, and latterly also social, Department, working there provided one with a great window onto the changes taking place in our country.

I have to say that starting there as a fresh faced graduate in the early nineteen eighties was something of a culture shock. The organisation I came into was hidebound, reactive and hierarchical in the extreme. Change was not on the agenda. This was so

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<sup>2</sup> Donne, John, the Complete English Poems, Ed. Smith A.J. Penguin Books, 1971

<sup>3</sup> Hofstadter, Douglas R, Godel, Escher, Bach: an Eternal Golden Braid, Vintage, 1979

much the case that I left the Civil Service to work in business for a couple of years. This was a formative experience which allowed me to see at first hand what a truly miserable state the economy was in. The top rate of tax was sixty five pence in the pound or punt more accurately. The punt was worth seventy five pence sterling and VAT was 30%. And in the midst of all this recession, inflation and interest rates were still high! Choosing to go into sales at that time was not perhaps the wisest strategic decision but it certainly taught one something about surviving on the frontline.

But more than anything, it was a salutary lesson in the pivotal role played by public policy in a nation's well being or lack thereof.

I returned to the Department in the late eighties just as the first economically oriented EU Structural Funds were coming on stream. And while there were vestiges of the old order evident, the challenge of structural funds had a catalytic and fundamentally transformative effect – both structurally and strategically. It brought with it a new discipline in policy formulation and the new requirements in accountability created a demand for skills that dragged the civil service towards modernity and meritocracy.

Through inexperience, we made many errors in those early days of the National Development Planning process. However, in the science and technology area, whether by luck or judgement we made one decision which proved to be fundamentally right: that was to place our bets on the Higher Education system, and the Universities in particular as the engine of development for science and technology, with the Programmes in Advanced Technology or PATs as our first foray into this field. Another decision which I believe was correct was to understand that good research cannot thrive without a supporting infrastructure. Our Campus Infrastructure Initiative which we pursued with the HEA and the Universities was an early example of joined up government – and those examples were then rare. In DCU's case, that initiative provided much needed research space for the burgeoning software research activity at this university.

We did make some mistakes, however. The most obvious one was to attempt to build a base in applied science – not a term which I like but which is the best one in

this context – without having first built up the fundamental research base. This was understandable. Money was becoming available for research at a time when the country had narrowly avoided having to call in the IMF to bail us out of insolvency. There was a huge expectation of quick results from the investment. It turned out of course to be a little more complex than that.

While we had some early successes, and while we made some mistakes, the fundamental problem was simply one of scale of resources. By the end of the first Science and Technology Programme in 1993, we were spending some twenty million euro a year. This was progress from zero base but it was very far from critical mass. In the latter regard, the essential constraint was the state of the economy. It would take the structural reforms in taxation, deregulation and the labour market to address that.

A seminal piece of work in those regards was the Forfás report “Shaping Our Future” published in 1996<sup>4</sup>. The preface to that report begins with a quote from Charles Handy<sup>5</sup> Ref Age of Unreason 1991:

*“The future is not inevitable. We can influence it if we know what we want it to be. We can and should be in charge of our destinies in a time of change”.*

The report made an impression on me, in terms of its targets and predictions. These included:

- *“More than halving the present rate of unemployment to approximately six percent by 2010;*
- *Increasing living standards achieve average EU levels, compared with 65.2 percent of EU average in 1995;*
- *Raise total employment from 1.23 million to 1.64million.”*

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<sup>4</sup> Forfas, Shaping our Future, A Strategy for Enterprise in Ireland in the 21<sup>st</sup> Century, May 1996

<sup>5</sup> Handy Charles, Age of Unreason, HBS Press, Cambridge, 1991

I have to say that those targets seemed hugely optimistic based on the experience of the previous decade. We know now with hindsight that they were, in fact, conservative. As the new National Development Plan<sup>6</sup> records, by mid 2006, there were over two million people at work here for the first time in the history of the State. With GDP of \$40,000 per capita we are approaching US levels, and significantly ahead of the pre accession EU 15, while unemployment rates have stabilised at around the four to five percent rate.

We have thus emerged out of a sort of Aristotelean stasis into a veritable Heraclitian Fire of change and development. There is no doubt that riding “the Tiger” is an exciting experience but, at the risk of going from the sublime to the ridiculous, one is always concerned that we may end up like the apocryphal ladies of Riga who, “returned from the ride with the ladies inside and a smile on the face of the tiger!.

By any standard, Ireland has been hugely successful as an investment driven economy with the decade of the 1990’s demonstrating extraordinary levels of inbound FDI reflecting the success of IDA Ireland and the tremendous efforts made by the higher education system to deliver relevant skills. Subsequently, positive demographics, investments in infrastructure and housing, and consumer spending, generally, have continued to provide the motive force for the economy.

On the debit side, the National Economic and Social Council<sup>7</sup> has noted the vulnerabilities inherent in the combination of extensive and intensive growth that Ireland has experienced in the “Celtic Tiger” period. Some of these vulnerabilities are quantified in the latest report of the National Competitiveness Council<sup>8</sup>. These include the following:

- A market share of world trade which peaked in 2002 and which has been in steady decline since;

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<sup>6</sup> Finance, Department of, National Development Plan, Stationery Office, Dublin 2007

<sup>7</sup> NESAC, An Investment in Quality, Services, Inclusion and Enterprise, Dublin, 2002

<sup>8</sup> National Competitiveness Council, Annual Competitiveness Report, 2006 Vol1, Forfás, 2006

- A current account balance of payments with the rest of the world which shifted from surplus as recently as 1999 to a deficit of €4.2 billion in 2005 and which is forecast to continue to deteriorate – reflecting the growth of debt financed personal consumption;
- The loss of 32,000 jobs in manufacturing in the five years to 2006.

I have spoken a lot this morning about change in Ireland. Our change is, of course, only part of a wider macrocosm of global change. Some aspects of relevance are the disaggregation of global value chains and the rise of China as the world's manufacturer, large scale investments in research in smaller players such as Korea which, with the focus on China, are happening "below the radar"; the transition from the physical to a world which is, in the words of Carly Fiorina, digital, mobile and virtual.

And finally, the carbon crisis which through supply disruption or the effects of global warming may have prove fundamentally destabilising.

Given these multiple vectors of change, clarity of vision is hard to achieve. What is clear, however, is that the days of a comfortable established world order are gone and that qualities such as speed, flexibility, agility and innovativeness are some of the core competencies which countries will require to succeed and prosper. We therefore need to refashion Ireland and to transform it from an investment and consumption driven economy to one whose success is built on innovation and creativity.

Coming back to the role of the Universities, Richard Florida<sup>9</sup>, in his paper, Universities and the Creative Economy has written eloquently on this subject. As he says:

"The changing role of the university is bound up with the broader shift from an older industrial economy to an emerging Creative Economy. The past few decades have been one of profound economic transformation. In the past natural resources and physical capital were the predominant drivers of economic growth. Now, human creativity is the driving force of economic growth. Innovation and economic growth

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<sup>9</sup> Florida, Gates, Knudsen and Stolarick, Universities and the Creative Economy, Creativeclass.org, 2006

accrue to those places that can best mobilise humans' innate creative capabilities from the broadest and most diverse segments of the population, harnessing indigenous talent and attracting it from outside.

Economic growth in the Creative Economy is driven by 3 T's: Technology, Talent and Tolerance. Technology and talent have been mainly seen as *stocks* that accumulate in regions or nations. In reality, both technology and talent are flows. The ability to capture these flows requires understanding the third T, tolerance, the openness of a place to new ideas and new people”.

I would suggest that the Florida creative society model has strong resonances in the Irish context. So let me now attempt to synthesise what this might mean for our Universities. I would say that we need to position our Universities as the hubs of the creative economy.

- We need to ensure that we achieve excellence in teaching and research within disciplines and among disciplines.
- We need to promote Universities as magnets for talent both within our own society and internationally;
- We need to ensure that there is a full and open relationship between the Universities, society and government. As Florida, says, we can think of the relationship between the university and regional economy in terms of a transmitter - receiver system, with the university transmitting a signal that the regional economy must be able to absorb. Simply turning up the volume of the signal will not be effective without the absorptive capacity being built.
- In building that relationship we must be conscious of the University's capacity to add value to national efforts. This can take many forms: horizon scanning and bringing ideas from the frontiers research to the attention of policy makers; acting as partners in public good research and, where appropriate, commercialising university generated knowhow. The role of a university in asking questions and promoting debate is equally valid in this context.

- Finally, we need to ensure that the resources are available to support and, critically sustain these efforts and we must be able to demonstrate to our stakeholders the benefit of supplying those resources.

I would like to conclude on a positive note by saying that the foundations on which to build a university system which is the hub of Ireland's creative society have been well set out at this stage:

- The SSTI provides the overall strategic framework for research with its emphasis on doubling PhD numbers and building world class teams. It also provides a new focus on public sector research. The new round of PRTLTI will provide the infrastructural support for these efforts.
- In addition, the Strategic Innovation Fund is supporting a range of change and modernisation initiatives, including new approaches to teaching and learning such as the development of graduate schools, improved support for access, and better support systems such as the development of a full economic cost model.

That said, there is much still to be done to ensure that our university system is both effective and sustainable and thus capable of achieving the kinds of goals I have spoken about here today. What is certain however, is that the Universities have tremendous potential to help Ireland to transform itself and to understand itself. In a time of multi dimensioned change, this last quality may be the most valuable of all.

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