

Irish Universities in the Knowledge Society: Society's Sentinels and the Citizen's *vade mecum*

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This is not an attempt to explore what the proper core role of universities should be through the insights of educators and of the great liberal traditions to which many subscribe, precious and excellent though they may be. Instead, this is an attempt to explore the essential requirements of society from universities, requirements that are necessarily implicit in the currently conventional vision of our future as a technically and economically advanced economy in an even more rapidly changing world, the Knowledge Society. If these two approaches tend to converge in their findings then we must think that the role of universities is made so much the clearer.

Let us be clear about what the term 'knowledge' indicates in the context of this paper. It is not the same as skill. It is not the same as information—information is usually described as a body of organised data; it may be found in books or in parrots. But knowledge?

Knowledge: 'the ability to use information effectively, to give it meaning within cognitive structures that are able to guide action'.¹

The creation of the Knowledge Society, about which so many are speaking, is not at all a matter of simply giving training or information. It includes giving to information the meaning that helps to guide action. This has always been a mark of high quality in university assessments. At their best, universities deal in knowledge.

The advance of the Knowledge Society will certainly change Ireland. But Ireland is used to rapid change now and maybe small societies, like small companies, can sometimes manage information flows and quick decision-making better than others. Ireland should make special provision to exploit this possible advantage of size, because the increasing rate of technological and economic advance will sorely test the cohesiveness and agility of decision-making in Irish society from now on.

The Central Question

What will Irish society need that universities can deliver over the next twenty years?

Indicators from Politicians

The Taoiseach gave us at least part of the answer to this question as far back as 2001, when he summarised the prevailing, indeed the only, foreseeable and acceptable future for the Ireland we are discussing. He was speaking of the economic future of course, but there surely is no future at all if there is no economic one.

The Taoiseach's words were:

My future economic vision is for Ireland to become a centre of excellence in areas such as ICT, Life Sciences and International Traded Services, driven by the best international and Irish-owned companies... Going forward, investment in training top class leaders is vital... We look to schools like this as great resources, and you have a big responsibility to prepare graduates for success in

the uncertain and diverse knowledge environment in which we have to compete and win.²

The Taoiseach restated this vision substantially at the Fianna Fail Árd Fheis in October 2005. The Irish Universities Association welcomed his statement that 'we want to encourage more of our third-level graduates to pursue advanced post-graduate study and research at fourth level....' and produced a generally excellent framework proposal for the 'Reform of Third Level and Creation of Fourth Level Ireland' in the same month.³

Universities must try to meet the training demands mentioned by the Taoiseach and indeed by several other members of his cabinet. If the future of Western society is to be at all as predicted, then the Taoiseach is right, and Ireland does indeed need the most advanced training of scientists, technologists, and innovators of all sorts. But that training is certainly not all that universities must deliver. Ireland has grown its enormous inward investment on the basis of a favourable financial climate, but also on the bases of having a well-educated workforce and being English-speaking in the European Union. Being English-speaking will remain an advantage, but Irish education is being overtaken and Irish labour costs have risen. Now Ireland must compete in the marketplace, more and more through high productivity arising from knowledge and skill. Consequently, there is a need to increase educational advantage if that can be ours: the Irish educational system must carry more people to higher levels of technical excellence.

And if the Taoiseach is somehow on a fundamentally wrong tack, he can hardly be blamed. Certainly, against his vision of the future it may be objected that modern Western society is wrong in its broad social humanist assumption that it has control over historical processes. Society may also be blind to the folly of giving free rein to wealth-creating and wealth-concentrating capitalism, a force that is often at odds with social well-being. But against those reservations is the obvious truth that not even the richest parts of the Western world have anything like enough wealth to fund all the medical and social demands of their peoples. So, despite all the wealth we have, wealth creation will remain the inescapable core demand in stable polities. The collapse of Soviet communism has thrown capitalism into even greater prominence as a wealth-creating system, a powerful workhorse sustainably fed on self-interest.

All significant economies, including Ireland's, are trying to harness the capitalism workhorse, but all are challenged by the need to ameliorate its worst effects on human welfare. Capitalism necessarily implies conflict in society over wealth concentration on the one hand, and welfare on the other. Social well-being depends on communities that accept the balance between the two: this acceptance does not have to be a comfortable one, but it must be bearable. It is the hope of Western civilisation that such acceptance can always come from exchanges on policy between government and an enlightened populace.

Some months before the Taoiseach's comments in 2001, the then Minister for Education and Science, and Chair of the 2004 Meeting of OECD Education Ministers, Noel Dempsey TD, articulated another, rather different need:

The never-ending search for competitive advantage in the global knowledge economy has led all public policy-makers to focus on education as a key factor in strengthening competitiveness, employment and social cohesion. This is an inevitable consequence of the increasing complexity of all our economies. Indeed, the pace of technological change worldwide is now so fast that, to a large extent, we must plan for the unknown... the challenge is to recognise that *the primary purpose of education is to provide everyone with the opportunity to achieve their fullest potential, both as individuals and as a member of society.*⁴

So, like the Taoiseach, Minister Dempsey too believed that Irish society needs someone to provide the highest possible levels of training, broadly in the sciences and technologies. Most striking and encouraging is the Minister's emphasis on personal development as individuals and as citizens. The judging citizen, the cohesive society, the value-seeking person, have all come to be seen as critical for the advance of Irish economic success in the Knowledge Society.

It seems then that, because Ireland has to compete economically in an ever more technological environment and because it has to manage that complexity for well-being in a democracy, Irish universities need to devote resources to the following:

- Formation of the person, for the Knowledge Society;
- Equipping the 'Citizen of the Knowledge Society';
- Research leadership;
- Innovation;
- Student learning.

Formation of the Person for the Knowledge Society

You cannot hope to build a better world without improving the individuals. To that end each of us must work for his own improvement, and at the same time share a general responsibility for all humanity, our particular duty being to aid those to whom we think we can be most useful.⁵

As accelerating change takes Ireland ever more deeply into technological and economic no man's land, entirely proper anxieties about jobs and the economy could easily lead us towards the simplistic belief that what needs to be done is all directly job-oriented. Those beliefs may prove dangerously destabilising of future society, and they are, at best, deeply unsatisfying for humanity. A quick look around shows that the things we value in an ultimate way are rarely jobs. The barefoot people on Croagh Patrick, Nelson Mandela enduring in his cell, Gandhi fasting against fighting, John Hume fasting against internment without trial, Marian Dunlop and the other fasting suffragettes, all point powerfully to the sustaining powers of values that do not much involve economics. They point to the visceral concerns of humanity. These concerns include liberty, justice, knowledge for its own sake, how to deal with conflict, and discovery as an attempt to understand both the universe and our position in it. A society in which these are not carefully cared for cannot expect stability.

The truth is that the thing most present in the mind of man is not the economic machinery necessary for his existence, but rather that existence itself.⁶

Society must, if only for the sake of its own stability, plan social development around the non-economic concerns and ambitions of the citizen. Happily, concern about encouraging personal growth is among the most widespread and dearly-held values of Irish academics today. Despite that, and greatly due to lack of resources, mentoring and mentoring are far too poor, even within narrow subject areas. Aside from chronic lack of resources, three other factors inhibit improvement in this area:

- the universities have no clearly articulated vision of how exactly they aim to contribute in a modern way to a student's personal development;
- today's academics have themselves come through impoverished systems, and have no real understanding of mentoring for personal and professional development;
- understanding of the human person has advanced so much recently that properly trained people are required for this task: academics are not capable of this as things stand.

Universities must see it as cautionary that leading industries, businesses and banking value the development of the person's insight into self and into others so much that they pay for courses in these areas for their employees. Their people are routinely exposed to understandings of personality differences, adaptability and value in the workplace, group dynamics, conflict resolution, strategic planning and mentoring practices. Yet Ireland does not equip even its most expensively educated citizens with such insight—surely a damaging omission for citizens of the Knowledge Society.

Equipping the 'Citizen of the Knowledge Society'

It seems obvious that, in a highly technological democracy, the citizen will be required to express sophisticated preferences about how living conditions and ethical standards are to mesh with technological development, and about developments in governance. Obviously, a good educational system will aim to place the citizen in a position to make informed judgements, in these areas at the very least. While codified professional ethics can be left to the relevant professions, suitably presented bases of ethics and morality, bases of economics, bases of personal and community psychology, bases of conflicts—including religions—among communities, all recommend themselves as elements in the education of the citizen.

Remember, the argument here is that *industry needs an informed and at least minimally cohesive society*. Evidence of industry's concern about this is everywhere, enlightened self-interest though it may well be. 'Corporate social responsibility', encompassing care for environmental and social sustainability, is becoming an essential element in progressive companies. Already, a quick Google search under 'Ireland corporate social responsibility' throws up 5,600,000 entries. The rush to be seen to be good is predictable from circumstances in the world. Some global resources such as the atmosphere may already be very damaged, others, such as farmland and oil, may be running out, the citizenry is starting to ask questions, and bad practice (as exemplified, for instance, in the Enron debacle) has brought legal suits and opprobrium on the commercial world. Consequently, industry feels the need to rid itself of a doubtful reputation and governments are moving to facilitate or enforce the development of a new, more caring, industrial sector.

Against this background, *technological Ireland, as well as the public, need the humanities to move much more towards the centre of the public stage.* And if there is no very convenient public stage, the humanities must make their own. They really must reach out with great determination to provide the public with the means of arriving at thoughtful decisions. As things stand, the public must live with the positions taken by bodies such as the Irish Council for Bioethics, established in 2002, to deal with ethics in science and medicine. Now, the Council's decisions may be sufficiently fair-minded, but the public needs more than that. People need to be satisfied on the basis of their own knowledge of the ethical ideas that lie behind the Council's decisions.

If the public are not to understand much about the basis upon which ethical decisions rest, we can foresee problems of credibility arising as the very difficult decisions about humans and human values multiply in the years ahead. The crippling of the genetically modified crops industry in Europe had much more to do with issues of credibility, ethics and values, and the fear of multinational power, than it had with food or environmental safety. The Irish need ethicists to bring into broad public knowledge the various approaches that can be taken to ethical decision-making, and understanding those approaches' advantages and limitations. We need psychologists and sociologists to bring understanding to the public about such things as housing and health, and criminality. We need economists to bring understanding about the national economy and globalisation. In all this we need academic objectivity: the confrontational approach to presenting issues of public concern, followed in much modern broadcasting, does little to help anyone to reason. The citizen needs the universities to provide clear and inclusive understandings, not just information, about issues. Government needs the same. There is an obligation to get around the problem of media methods. One could fairly ask, should universities not seek to establish educational broadcasting, even local broadcasting, as a way of fulfilling some of their core responsibilities?

All this is a stark demand on universities, but it is quite in line with the tenor of J. H. Newman's ideas, and is thrown into relief as economic and technological changes stress people and society. What is at stake are the sustainability of the changes themselves, the autonomous moral functioning of citizens and the cohesiveness of society. I am of the opinion that this is something universities need to provide for, outside of existing faculty structures; perhaps in core modules to be taken by all students irrespective of the school or faculty to which they may belong.

But do not feel that I am indifferent to the requirements of industry and business. Far from it. There can be few with an interest in their interfaces with universities who have not, again and again, heard leaders of these areas tell us that our degree standards and training are already excellent, and then go on to say that they need people they can promote. They ask us to pay more attention to developing the knowledge and skills by means of which people reach judgements, negotiate, extend understanding, and work together in a shared ethical framework. But are those not features of university education that we have always espoused, even if we have not had the resources to really provide them? The truth is this: industry and business need these things so much that, where they can afford it, they have gone ahead of the universities through in-house staff development. Would that all citizens could have access to their initiatives; would that the universities could have found the means to

provide such things in the university experience. Now it is imperative, for the sake of Irish business, industry, society, and the citizen of the Knowledge Society.

Research Leadership

I should clarify my understanding of some terms as I use them. Their meanings are not universally agreed.

Fundamental science is that part of philosophy that is immediately or ultimately subject to experimental verification, and is concerned with how the universe, and everything in it, works. It is therefore an intellectual endeavour driven primarily by man's need to understand the universe and it tends to produce discoveries that are the basis of large-scale, new and unforeseeable generic technologies. The almost chance discovery of X-rays in 1895 by Roentgen is a case in point. But favourable accidents seem to happen more often for the curiosity-driven: Roentgen broke off what he was doing in order to follow an unexpected observation that fired his curiosity, and discovered X-rays. His curiosity resulted in bases for developments in astronomy, medicine, industry and business.

A candid Professor confesses
That the secret of half his success is
Not his science, as such,
Not its marvels so much
As his bright irresponsible guesses.⁷

That, typically, is fundamental science, but it has taken many decades to persuade even some administrators that this is really true. How could anyone justify supporting scientists to go where their curiosity takes them? How could a conventional managerial culture cope with that? Well, the most progressive commercial companies found special ways to do it, and scientist-led funding bodies have done reasonably well too. But it certainly is a difficult freedom for society to cope with without clear communication between real scientists and the public.

A special case of fundamental science occurs as mathematics. Here, results are usually not testable directly by what is usually meant by the term 'experiment'. Nevertheless, it has its own logic-based testing and it underlies most, if not all, experimentation, and like other areas of science, mathematics seems to 'work'. Fundamental science is very often cheaper than more applied endeavours.

Applied science I understand to be experimental work done to quantify predictable results: for instance, deciding which tree species grows best on a soil type, which concrete mix is strongest, or which drug controls tuberculosis best. The objective is to determine and to quantify rather than to understand how something works. This kind of research is more easily managed, and often more expensive than fundamental research. It too can throw up unexpected observations, observations that might lead to discovery if the researcher has freedom to divert effort in that direction.

Technology I understand to be the use of existing knowledge to create products and facilities. A tremendously important element in this is innovation, devising things or processes that are new or made in novel ways.

Research in the arts and humanities is more rarely verifiable by experiment and is more often concerned with assembling data (observational data, survey data, historical data) and converting the result to usable information that may be called knowledge. The arts, in particular, provoke and explore human responses in areas (such as music) that are resistant to any other approach. Scholarship has a special importance in the arts and humanities.

These different research activities frequently grade into one another, and frequently one researcher carries out more than one of these kinds of research.

I have offered descriptions of these kinds of research for purposes of clarity. I cannot recognise one as more important than another, but I do assert that research closely linked to theory, and the establishment of frameworks of understanding, are the particular responsibility of the universities.

What issues does research leadership raise for universities? These institutions are looked to for:

- unbiased and independent information and learning for students and society;
- development, through scholarship, of the aesthetic, spiritual and social aspirations of the community;
- direct contribution to industrial development, mainly through top-level teaching.

The first two of these make universities natural sentinels upon whom falls the responsibility to alert society to issues posed by advancing technologies, and to ensure that at least the best educated in society are equipped to make insightful judgements. *If not the universities, then who?* We may ask, what institutions other than universities encompass the necessary range of expertise and the academic freedom to be sentinels for the community in the growing complexities of the Knowledge Society?

The Sentinelling Role and University Research

Unquestionably, there is some real conflict between the demand on university science to engage directly with industry on the one hand, and to provide unbiased learning coupled with fostering the community's aesthetic and spiritual aspirations on the other. This is partly because close association with industry can raise issues of confidentiality and business which compromise open communication and discourage science-motivated researchers. Close association with industry compromises the freedom of scientists to follow the interests that truly absorb them and to provide unbiased information. The sentinelling role of the university in society is threatened and public access to unbiased information is compromised: an example of this is to be seen in the poorly informed public debate about genetically modified organisms. Close association with some sectors of industry can also involve university researchers in simple questions of applied research that may not represent the best use of university-level resources.

Despite the foregoing, *The Report of the Working Group on Higher Education*⁸ presents the following view:

A further shift is required to engage higher education research activities more fully with the business sector and society in general. The Working Group sees major advantages and opportunities for increased co-operation and synergy between the investment from public funds and that from the private sector.

Clearly, this would be an economy-led objective, and one well justified for some sectors of higher education. But to the extent that it may be read to mean that university research should engage closely with business, presumably including industry, it is probably not justified. That course of action would compromise the independence of publicly funded research and its ability to inform the public that funds it.

Consider this: so far, although some success can be claimed in transfer of knowledge from universities to industry, and in campus company development, on the whole that success is small. And, looking coldly at the future, it seems very unlikely that universities will have the sheer capacity to contribute greatly to industrial development through research. I will venture the view that since the entire Irish research establishment in any area is minute, we simply do not have the scientists to make much of an impact, even if you put them all together. But if you *did* put them together, there would be a further problem. It is this: in the universities (with a few exceptions) the broad teaching needs require staff with knowledge of very different research areas. While this can sometimes be an advantage, in that it can throw up new insights, it is far from the needs of targeted, industry-related research, where large teams can be focussed in narrow areas. Only large-scale funding of specified research could do this, and the teams could not generally be made up of existing staff. Such funding is not likely to be available at sufficient scale in Ireland either through the Higher Education Authority or Science Foundation Ireland.

The notion that Irish university research in the sciences is the basis of Irish industrial development is misleading. Industries based on advanced technologies know this well. They do not look to universities for research output, but rather to their own large research establishments. The universities are important to them, but that importance is much less in terms of research output than in terms of training and networking. Why would anyone be surprised about this? Despite popular wisdom, universities in the USA do not appear to contribute much of industry's research base either. Given that, it will be tragic if Irish universities compromise their excellence in teaching, free research and outreach in hopeless attempts to provide a proper research base for industry, and lose public confidence as gatekeepers while doing so. Industry in the Knowledge Society simply cannot afford to have universities fail in their core responsibilities through this.

My nervousness about saying something that goes so much against conventional wisdom would be much greater were it not for Giovanni Dodi and Mauro Sylos Labini (*Sant'Anna School of Advanced Studies, Pisa*) and Patrick Llerena (*Louis Pasteur University, Strasbourg*). Their draft expert report to accompany the October

2005 European Innovation Scoreboard is available on the Cordis website.⁹ In relation to EU research they say their analyses imply the following:

- 'increase support to high quality basic science, through agile institutions';
- 'fully acknowledge the difference within the higher education system between (i) research-cum-graduate teaching universities, (ii) undergraduate teaching universities, and (iii) technical colleges';
- 'push back the trends toward increasing appropriation of public research in favour of open research results... we would stand by the general point that too much of an emphasis on appropriability and IPR is likely to exert a pernicious influence on both the rates and directions of research. Moreover, it might also represent a significant hindrance to business-led innovation';
- build ambitious, technologically daring missions justifiable for their intrinsic social and political value;
- re-discover the use of industrial policies as a device to foster a stronger, more innovative, European industry.

Their analyses also lead them to

defend and strengthen a system producing top-level publicly funded open science—too often under threat by both the 'property right' colonization and the 'practical usefulness' advocates...

What I like about this expert report is that it supports my own assessments, and who does not like that? But even in Ireland these assessments are certainly not mine alone. The Director of Teagasc, the Irish agricultural research organisation, worrying about consumer confidence in biotechnology, wrote in 1999:

In many European countries, the public institutions that over the past decades undertook comprehensive research on agricultural technologies have been significantly eroded. These institutions carried out credible impartial research, which gave consumers the confidence in new and emerging technologies that are now commonplace in food production. The cardinal question is: Can universities and other public research institutions continue to fulfil this vital function in the future? The prognosis is doubtful. To begin with there is increasing pressure on researchers, especially in universities, to source much of their funding from industry. Clearly such research is industry-driven and not primarily concerned with the impartial publication of research outcomes. Further to this, a recent development which must be questioned is the growing preoccupation of researchers in universities and other public institutions with taking out patents to protect the intellectual property rights of their own biotechnology developments. *Who is minding the house?*¹⁰

Indeed, who *is* minding the house? In rapid technological and economic change, some sentinel needs to be competent to assess developments and to tell the truth, at least in so far as the truth can be recognised. *Only*, I repeat *only*, the universities have the capacity to do this. Direct linkage with industry is of minor national importance by comparison.

If universities *are* forced, through public policies, to engage with business, this engagement should:

- 1) be done through new, on-campus structures, lying outside of academic departments;
- 2) not be allowed to attract the best brains the universities have, from their positions of teaching and free research.

Failure in regard to these requirements will compromise the success of the economy. We have already seen how the lack of credibility that surrounds business and government services has set back areas as diverse as the development of crop biotechnology, the availability of blood and the marketing of beef during periods of public anxiety. These constitute further evidence of industry's need for a credible sentinelling agency in the Knowledge Society.

The leadership role of the universities now seems clearer. Universities must support independent top-level research so that they are competent to fulfil their sentinel role, so that they can take the nation's strongest students to the highest level in personal development and training, and so that they can understand how to facilitate all students to express their potential. (This seems to imply that one line of research should have as its aim the understanding of how students may attain knowledge and development, and the prescription of teaching methods to suit.) The universities need top-level research in order to teach and to sentinel. Society needs the universities to perform these two functions and to provide independent public-good research.

Innovation and Student Learning

These two things are very closely related. I feel that the way in which students are 'taught' can do much to foster innovation. The extraordinary thing is that we still 'teach' much as we did centuries ago. We may be quite right to do so, because talking one to another is certainly something for which the human nervous system has adapted over millennia. Still, I feel we have been much too dilatory in following up on what behavioural and other studies show us about, for instance, differences in learning styles and convincer patterns. Our use of ICT has been largely a matter of taking what is available for other purposes and using it as best we can. It is noticeable that few, not even academics, will study from a computer screen if they can print the material on paper. So, for real success with ICT, the student needs to get something (easier learning, better results) in return for the discomfort of using it. And yet ICT seems to promise ways of accommodating many learners at varying times, and of giving frequent feedback on progress of certain kinds. Electronics could replace much 'wet' laboratory learning, with savings in running costs, down-times and other benefits. Too little effort has gone into prescribing from an educational point of view what information technology should try to supply, with the aims of serving the nervous system better and exploring the extent to which our understanding of its requirements is correct.

The task is very great, and will be costly, and very little has been accomplished in this area anywhere in the world. Presumably, costs and foreseeable economic returns to the developers are the problem. Yet the returns, through enhanced learning for the Knowledge Society, to national and global economies, could be very great. Of course

we must welcome the establishment of the Learn3K Research Centre at the National College of Ireland and the expert group recommendation that €20 million per annum should be invested in each of the next five years, aimed at developing the e-learning industry in Ireland. One can only hope that such investment initiatives (and there need to be many more) will aim to take us beyond the technologies and towards identifying what the learner-centred objectives of those technologies should be.

A feature of a good ICT-based learning system would be that it should provide experience of discovery and innovation to the student. Person tutelage really is a problem in current teaching programmes in Irish universities. Student/staff ratios are very unfavourable: 16.6 for Trinity College Dublin, as against 6.4 for Copenhagen, 6.6 for Zurich, 7.9 for Heidelberg and 7.5 for Edinburgh.¹¹ Faced with the enormity of these differences between Irish and the better European universities, it is hard to see how a great deal more can be achieved by Irish universities, which also fall well below the OECD average in expenditure per student.¹²

Nevertheless, universities really do need to do more to foster clever teaching practices. Of course, such practices are expensive in terms of time. The main obstacle is the competition for that time between teaching and research. Universities must find ways to attach credit to innovation in teaching in promotional procedures. Although there is provision for this in universities, good teaching is hard to quantify and so it is seen as less likely that assessors will be encouraged to rate good teaching well against good research. But if universities are to succeed in their ambition to provide for citizens of the Knowledge Society, more student capabilities must be better catered for.

Much the same need arises in relation to the core modules on the 'Formation of the Person and the Citizen of the Knowledge Society' which I suggest universities need to provide for all students. There is danger in attempting this using a patchwork of existing courses as unexamined material: the predictable result will be disjointed syllabi and low motivation. This is a difficult area for young and older students, very much including life-long learners. It requires new specialised academic appointments along the lines of a new, transfaculty academic department. This new creation must be academically respectable, and why should it not be? Universities must take this kind of development seriously now: recall that what is at stake is the sustainability of the Knowledge Economy, the autonomous moral functioning of citizens, and the cohesiveness of society. No half-hearted attempt at this task will suffice.

To summarise the core responsibilities which fall on the universities in the Knowledge Society:

- Development of the person using modern insights;
- Development of the informed, judging citizen;
- Sentinelling in relation to technological, social and economic developments and their impact on the person and society;
- Development and transmission of the human cultural, spiritual and exploratory impulse.

Of course, universities can and do fulfil other roles, particularly in respect to areas such as engineering, agriculture, medicine and the like. But I argue that the primary,

irreducible responsibilities of universities to the people who pay for them, and to humanity as a whole, are as I have set out.

But what a task we have! Irish universities have sought to carry out much of this in the past. The valuing of students as people, the valuing of equity, of learning and of discovery have been present throughout their history, and in this Irish universities are superior to many vastly better-funded university systems that are often admired abroad. Where we have failed society in our core responsibilities, it has been largely through lack of resources, not lack of motivation or of idealism.

Can we do better now? What I have outlined would require considerable realignment within universities, and very great support from funding bodies. Honestly, I do not think we are likely to lead in this way. Ireland is more likely perhaps to muddle along somehow, with society less coherent, and representational decision-making becoming poorer. Economic and technological influences are likely to sweep us into the future, conflicted and impotent. But if the universities could be confident and assertive about their core responsibilities, and take the matter into the public arena repeatedly, certainly some progress will be made. Similarly, an attempt at something as dramatic as this should be, in a small country, could be seen as a pilot investigation that could recruit European and philanthropic funding. (Indeed, the raising of independent funding must be seen as a university activity that is central to protecting academic independence.) To progress core university responsibilities as I have described would be a struggle, certainly. But what is more worthwhile than the struggle for betterment?

In any case, given the reversal of informed opinion that the report of Dosi *et al.* seems to portend, the least that can be said is that the Irish universities should not lose whatever ability they already have to carry out their core responsibilities. With that in mind, look now at current HEA thinking summarised by (and from) Sean Flynn, Education Editor of the *Irish Times*.¹³

The HEA says any new funding model should:

- ‘Reward responsiveness of a university to national and regional needs’;
- ‘Increase opportunities for students of all backgrounds to gain the benefits of higher education’;
- ‘Provide incentives to colleges to diversify and increase incomes from non-State sources’;
- ‘Promote a strategic approach by the colleges to their long-term development’.

The HEA proposes that up to 15% of the overall block grant could, over time, be used to support long-term strategic planning. Colleges could be penalised if income from other sources is below 5% of total income.

It is hard to disagree with most of what the HEA is saying. And universities, like others, have to respond to the major source of their income, the HEA. But how much overt care can you detect for the core university responsibilities in the HEA position?

Perhaps the HEA itself is not very sure about the foreseeable cohesion and governance (as opposed to the technical and business) needs of Ireland in the

Knowledge Society. Who has had the resources to research and set out those needs? *Who is minding the house? Who is sentinelling?*

The framework proposal prepared by the Irish Universities Association referred to earlier, seeking additional investment in university education and research of €104 million per annum between 2006 and 2013, coupled with €408 million capital funding, is generally excellent, and asserts:

This investment will make us more prosperous in economic terms and a healthier society through the innovative application of new knowledge to public policy and services.

And,

the universities will produce a new breed of entrepreneurial third-level graduates entering and improving the workplace and the wider society.

But although it does have several encouraging statements, and even asserts that a key element in fourth-level Ireland will be

investment in the arts, humanities and social sciences to promote the research, scholarship and creativity to complement scientific technological and commercial advances...

I could have wished it to be even more assertive about how vital their input will be to the sustainability of the economy in society. I have said that the framework proposal is generally excellent. So it is, but I wish the insight of our society was such that the case for elements of economics, law, ethics and suchlike areas in the experience of every graduate, might have been argued as easily as the case for technologies, or even for fundamental science.

University Management

A great deal of management theory emerges from the contemplation of biological systems. From population ecology come notions of resource dependency, selection of the fit from among many variants, birth to death cycles in organisations, imposition of dominance structures, and so on. The philosophical approach suggested by population ecology contrasts dramatically with another: that suggested by the brain. The brain is understood to work, not by imposed structure, but by having decision-making emerge from the interaction of many functioning parts. If you know little about management, do not be put off. The point to be made is that there are several approaches to it and that many successful companies use widely different systems.¹⁴

Universities are complex structures with essentially two necessary management structures. One deals with research, and the other largely with administration and teaching arrangements. Universities need to set strategic targets in support of their core responsibilities. There is very little doubt about that. They must be able to raise funding for developments and they must be able to be clear about what they want the funding for. But this target-setting needs to be for the support of their core responsibilities. Prestige pursued by a university should come primarily from excellence in handling the core responsibilities, not from something less than that. But what we often think we detect, coming from outside the universities, is pressure to

adopt organisational structures that are imagined to be those finding uniform utility in business and industry. There are no such organisational structures. Furthermore, the suggestion seems to be that universities should structure themselves to facilitate central directing. But where is the study of what organisational structure best suits the core responsibilities of Irish universities?

So let me try a little thought-study of my own.

I start with the idea that, in universities, central authority, although critical to the success of the institution and all its undertakings, is powerless:

- to provide teaching;
- to engage in research;
- to compete for project funds for research;
- to evaluate where research needs to be done within a discipline;
- to evaluate the effects of research and technology.

These vital functions are all carried out far from the central authority, at the periphery of the organisation where the academic works. Obviously that is the case for teaching, but how does it come to be that central authority can have little to contribute in the other areas I list? Irish university academics are expected to be at the top of their professions, as scholars and researchers. To be less than that makes towards being rated 'unappointable'. Your university expects you to be its expert in your area, able to compete with all others for competitively awarded research funds. If you fail, your research fails. And if your research fails you are less competent to take students through honours degrees and Ph.D.s, and to sentinel for society with respect to science and technology. But if you are a research leader, able to compete on your record for research funding, then you must be free to engage in that research and direct its development. In summary, almost all the expertise, power to learn and power to develop research in universities is at their peripheries.

The relevant knowledge does not enter the organisation at the centre, but at the periphery. Management concepts that emphasise things like central authority and line management are not suited to this situation. University management has wisely taken account of this, and it must be permitted to continue to do so: it must simply demand that academics be excellent teachers, scholars and researchers.

Looked at one way, it could be argued (indeed it has been) that teaching is what primarily creates the need for university research and scholarship. The irreducible role of central university authority is thus to provide for the structuring and review of teaching programmes, and to accommodate the development of research, largely associated with the teaching and the sentinelling functions of academics. Central authorities need to be agile with respect to course development, strategic planning and fund-raising in support of the core responsibilities. These are highly competitive, demanding activities.

Can the universities be all these things? I answer, 'Yes'. Most of them are being done already and only need to be better resourced.

In the end, however, university life is a vocation, not something to be entered into by the unmotivated. There never seems to be enough money to do the really important things, but we try to do most of them in any case.

¹ Ian Miles, *Ireland and the Knowledge Society*. (European Foundation for the improvement of Living and Working Conditions, 2005).

² An Taoiseach, Bertie Ahern TD, speaking at the Michael Smurfit Graduate School of Business, UCD. Quoted in *UCD News*, Summer, 2001.

³ Anon., 'Securing Competitive Advantage in the 21st Century: Reform of Third Level and Creation of Fourth Level'; framework proposal submitted by the Irish Universities Association.

⁴ *OECD Observer*, March 2004. Emphasis added.

⁵ Marie Curie. Quoted in Lorie, P., and Mascetti, M. D., *The Quotable Spirit*. (London: Macmillan, 1996).

⁶ Chesterton, G. K., *The Everlasting Man*. (London: Dodd Meade & Co., 1925).

⁷ Thomas Thorneley. Quoted in Parrott, E. O., *Limericks*. (Harmondsworth: Penguin Books, 1983).

⁸ Dublin: Royal Irish Academy, 2005.

⁹ <http://trendchart.cordis.lu/scoreboards/scoreboard2005/index.cfm>

¹⁰ Downey, L., 'What will the Agri-Food Industry look like in 2015?' *Proceedings of the Agri-Food Millennium Conference*. (Teagasc, 1999). Emphasis added.

¹¹ *Royal Irish Academy Report of the Working Group on Higher Education*. (Dublin: RIA, 2005).

¹² 2001 data, *RIA Report*.

¹³ *Irish Times*, Thursday, 30 June, 2005.

¹⁴ Morgan, G., *Images of Organisation*. (Sage Publications, 1997).