

ANNUAL

review

2009 2010

Future paths

Nicholas Canny reflects on the Academy's evolving role

Innovation Ireland

Tom Brazil assesses the Report of the Innovation Taskforce

Eurosciences Biennale Open Forum

Peter Mitchell looks to opportunities ahead as Dublin becomes European City of Science in 2012

Quote/unquote

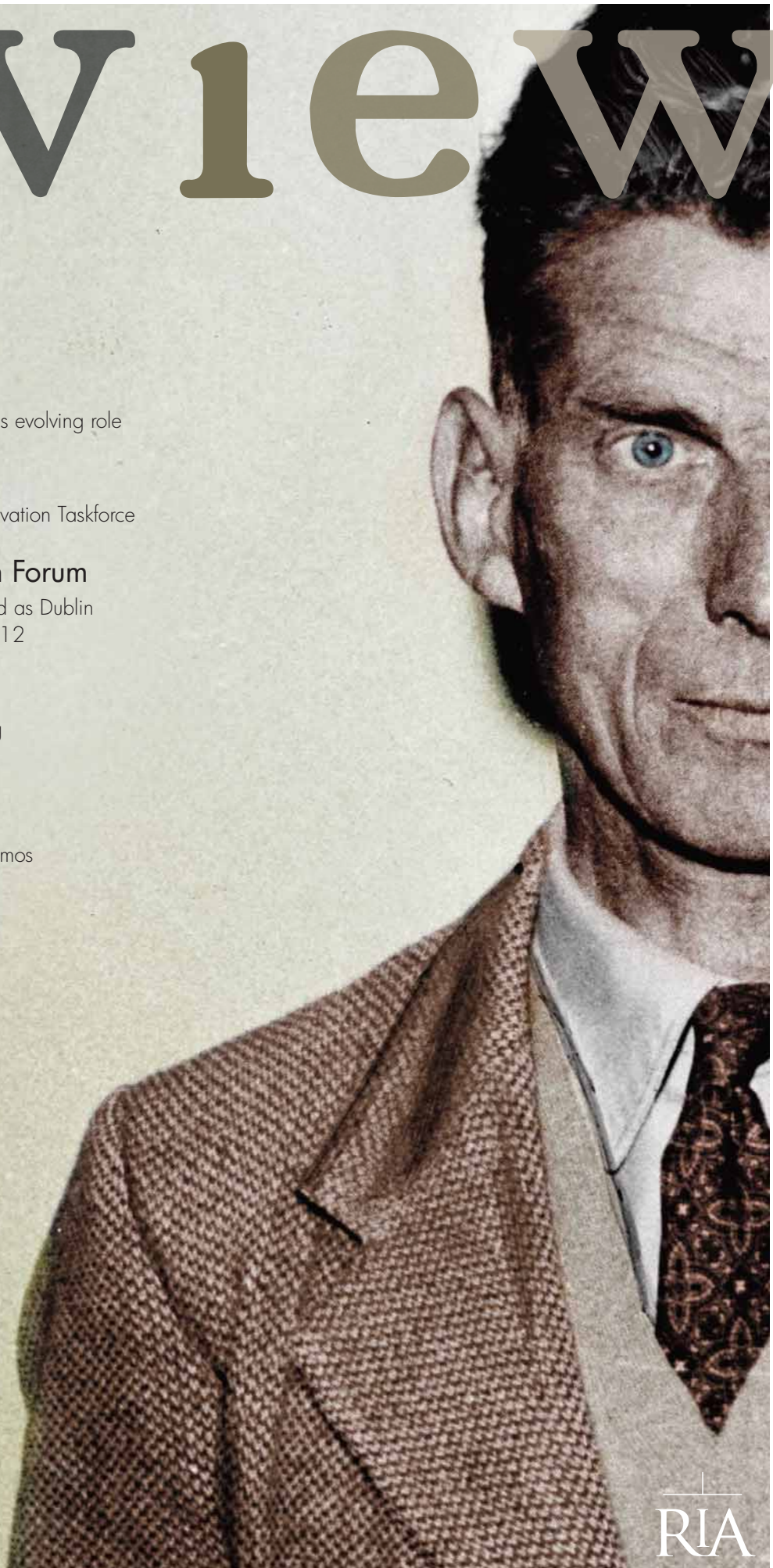
Michael Cronin argues for critical thinking

A vision for astronomy and astrophysics in Ireland

David Fegan traces the journey of the cosmos from the 'Big Bang'

On the shelf

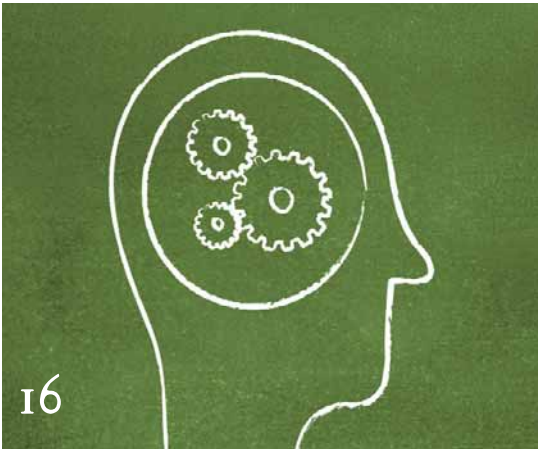
9-volume *Dictionary of Irish Biography*



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ROYAL IRISH ACADEMY, 19 DAWSON STREET, DUBLIN 2 PH +353 1 6762570

Key Achievements

2009/10

- ▶ *Dictionary of Irish Biography* (With Cambridge University Press), 9 volumes, 9,700 lives, over 2000 years of history, available online, edited by James McGuire and James Quinn
- ▶ *Irish Historic Towns Atlas*, no. 21, *Limerick* by Eamon O'Flaherty; and no. 22, *Longford* by Sarah Gearty, Martin Morris and Fergus O'Ferrall
- ▶ *Dublin 1610 to 1756: The making of the early modern city* by Colm Lennon
- ▶ *Conspiracy: Irish political trials* (in conjunction with an RTÉ Radio 1 series) by Myles Dungan
- ▶ *Judging Lemass: The measure of the man* by Tom Garvin
- ▶ 8th Scientific Statement: *Market-based policies for reducing carbon dioxide emissions*
- ▶ Reports: *The future of graduate education in chemistry and physics* and *Ensuring integrity in Irish research: A discussion document*
- ▶ 'Celebrating Thinking', a series of panel discussions
- ▶ 'The Future Role of the Public Intellectual', a panel discussion
- ▶ 'Competitiveness', a public lecture by Craig Barrett, former chairman and CEO of Intel
- ▶ 'Carbon Capture and Storage: Bridging the Transition from Fossil Fuels to Renewables', International Geosciences Committee conference in Dublin Castle
- ▶ 'Treasures of the Royal Irish Academy', a library exhibition
- ▶ 'Threats to the Environment', a lecture series



This, my third and final presidential address, provides me with an opportunity to ponder whether, under my stewardship, the Academy has remained true to the course I charted for it at the outset of my tenure, and to point to some possible fresh undertakings. In my first report, for 2007–8, I made the case for the Academy being a ‘university for the universities’, by which I meant it could provide a forum for the critical self-examination that, for a variety of reasons, is happening less frequently within universities. Apart from their quotidian involvement with teaching and administration, academics are increasingly preoccupied with individual and inter-institutional competition, internal and interminable restructuring, and incessantly drafting funding applications, especially to sustain research.

As I reflect on our endeavours since March 2008 I believe that the Academy has indeed become a voice for the universities in two respects. First, it has sponsored specific (and thankfully well attended) public lectures on the multifarious challenges facing universities today. It has also led investigations of subjects relevant to Ireland’s more general well-being, frequently in association with partner bodies. In this second category I recall having attended conferences on topics as varied as: carbon capture and storage; Ireland’s energy requirements; research integrity; and key performance indicators appropriate to humanities disciplines, among others. Attention has also been given, by the Academy and its Committees, to how would-be entrants to the university are being prepared at school for that progression, and to perceived academic deficits at school level particularly in the teaching of mathematics and modern languages.

Future paths

>> ACADEMY PRESIDENT PROFESSOR NICHOLAS CANNY LOOKS AT THE ACADEMY’S EVOLVING ROLE AS A FORUM DURING CHALLENGING TIMES



Many such debates have been reported on extensively in the public media, where Academy positions are sometimes identified as inputs to reforms or initiatives favoured by government. All such mention is welcome, not least because the Academy relies for its support on the public purse, and is therefore as anxious as every other publicly funded body to be seen to be contributing to the resolution of the country's current difficulties. However, while the Academy is happy to advocate relevant government policies of which it approves, it frequently alludes to the complexities of the policies being promulgated, not least because complexity is not usually favoured by political figures and/or media reporters anxious to command the attention of a general audience for a few fleeting moments. For example, while this Academy, like many other opinion-formers, calls regularly on the government to sustain research funding in the interest of having Ireland enjoy a share in the wealth that accrues from the advancement of knowledge, it insists that advances in knowledge come incrementally rather than in a flood, and, regardless of discipline, in the aftermath of intelligent reflection upon the close observation and testing of a wide range of data. The Academy also differs from less critical proponents of the knowledge society when it queries the channelling of research investment into narrowly defined areas. It considers this particularly dubious where the stated intention is to anticipate where innovation is likely to be achieved, rather than to inform researchers in Ireland of scientific breakthroughs that have been accomplished elsewhere.

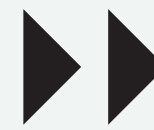
Consistent with this, the Academy also questions the propriety of linking research investment to employment forecasting, not least because historical experience has shown that clairvoyance and scientific enquiry are polar opposites. Instead of endorsing whatever simplicities are articulated to secure short-term research support or institutional advantage, the Academy has argued consistently that broadly based investment aimed at fostering enquiring minds and better trained researchers in a diffuse spread of disciplines is that which is most likely to promote innovation and employment.

“the country faces an imminent crisis because a quick shift from fossil sources to renewable energy sources is not feasible, either financially or technologically”

While the Academy in its inputs and opinions on such debates frequently alludes to complexity and uncertainty where simplicity might have wider appeal, it also regularly challenges obfuscation and lack of moral courage, especially where freedom of research enquiry is being hindered by unclear guidelines from government and other external agencies. Such issues arise most frequently in relation to bio-medical research where ethical and legal guidelines are unclear and where government, and various pressure groups, would seem to prefer not to have uncertainties clarified by the courts. The preference for having issues left opaque is not confined to the bio-medical domain, however, and researchers investigating how Ireland's interests (including its economic and environmental interests) might best be upheld when meeting its energy needs, also find that open enquiry is not always being encouraged. On this issue, insufficient attention is being given to the fact that Ireland's heavy reliance upon imported fossil fuels to meet its energy requirements leaves the country uniquely vulnerable from economic, security and environmental perspectives. Our researchers, like most commentators, would have the country make increased use of renewable energy sources, but, unlike commentators, they recognise that the country faces an imminent crisis because a quick shift from fossil sources to renewable energy sources is not feasible,

either financially or technologically. Most investment so far in this area has been in wind energy, with some support being given to research on how biomass and waves can be used for electricity generation.

If we are to be guided by the experience of Denmark, however—which has invested a staggering amount in energy research, but can still only meet 25 per cent of its energy needs from wind power—these sources alone will be insufficient to resolve the acute problem that we face. Therefore, if Ireland is to achieve a rapid de-escalation of its reliance on fossil fuels, and meet its international obligations to reduce CO₂ emissions, it must promote research also in solar energy. Moreover, I believe that Ireland should no longer close its mind to considering the possibilities presented by downsized nuclear power stations appropriate to smaller countries, given the relevant technological research



that is on-going internationally. Principle can no longer be invoked to justify a seeming reluctance to support such research, given that much of the electricity that we plan to purchase for our national grid is being generated in the large nuclear power stations of other countries.

Although I can point to many instances where the Academy has adopted a critical stance concerning national research strategy or university policy, I remain concerned that we, as a learned society, are much less active than our counterparts in Britain (and here I have particularly in mind the Royal Society and the British Academy) in seeking to influence educational provision at school. I consider this reticence to have serious implications, given that the choice of subjects and instruction at Irish secondary schools determines the level of preparedness of matriculating pupils for university instruction. The Academy, as I mentioned, has offered critical comment on the provision being made for the teaching of mathematics and modern languages at secondary (but not at primary) school, and the Academy's Chemical and Physical Sciences Committee has recently sought to identify the schools in Ireland in which the teaching of chemistry and physics to higher-level final year students persists, and to acquire some understanding of the quality of the human and physical provision being made for the teaching of these subjects. A perceived academic drift in these disciplines at school prompts all of these actions, and Minister

for Education and Skills Mary Coughlan, TD, responding to pressure from a variety of sources, has conceded that students presenting for higher-level mathematics at final school examinations will, henceforth, be awarded bonus points. Even as this pronouncement was being made (and the Academy has long advocated bonus points for mathematics, albeit against my stated objection), Academy Members were asking how this device will encourage a greater number of capable pupils to opt for higher-level mathematics, and questions are also being raised concerning the implications of privileging mathematics over other cognate subjects, notably physics and chemistry.

Such misgivings, I would suggest, point to the need for the Academy to sponsor a more general discussion on university admission, one that will extend to the question of proficiency in which subjects on the school curriculum and mastery of what skills should be taken into account when assessing candidates for admission to what will always be a limited number of university places. Any such discussion, leading possibly to a distinction between a university entrance examination and a school-leaving examination, may leave the Academy open to the charge of favouring elitism. However, sponsoring such a debate might also bring this Academy, like its counterparts in Britain, closer to a wider community, and closer also to accepting that what happens academically at school has major implications for what might be attempted academically at university.





Innovation Ireland

>> ACADEMY SECRETARY TOM BRAZIL ASSESSES THE REPORT OF THE INNOVATION TASKFORCE, ITS VISION FOR IRELAND IN 2020 AND THE CRUCIAL PLACE OF EDUCATION

The importance of 'innovation' is increasingly evident in public policy discussions in Ireland and elsewhere. It is a concept that is sometimes difficult to define with precision but is in general associated with new ways of doing things, leading to an economic or social return. As academic research involves the discovery and dissemination of new knowledge, there is naturally perceived to be a close link between innovation and academic research.

Even so, the optimal way in which this connection works can be elusive to identify. Sometimes a great deal of research, even over a long timescale, can be carried out with little immediate impact on innovation, while at the same time quite radical innovation can take place without any obvious research input (for example, the low-cost airline model). Nevertheless, experience in innovation-intensive locations such as Silicon Valley demonstrates the critical role that universities often play in driving and supporting innovation.

In its medium-term economic strategy published in December 2008, the government identified as one key action the development of Ireland as an 'international innovation hub'. The Report of the Innovation Taskforce produced in March 2010 is intended to create a roadmap for how this is to be achieved. It is a long report, of some 122 pages, with numerous recommendations and with a jargon of its own—terms such as 'inflection point', 'step-change', 'ecosystem' make repeated appearances. The Royal Irish Academy made a submission to the Taskforce in September 2009. The following summarises the main recommendations of the Taskforce Report and then offers some comments on and analysis of its conclusions relating to research and education, which are of primary interest to Academy Members.

The vision that the Taskforce sets out for Ireland in 2020 is of an innovative, high-value, export-led economy hosting research intensive multinational companies of global significance, some Irish-owned, accompanied by thousands of innovative smaller companies. It sets out to place the entrepreneur and enterprise at the centre of its thinking. The main themes of its analysis and recommendations focus first on the need for continued public investment in research and devel-

opment, including an updated strategy for science, technology and innovation (SSTI) for 2014–20, but with some new emphases, including improved agency coordination and greater resources for 'applied research that is focused on identified priority opportunities for industry in Ireland'. This is linked to several recommendations connected to the education system at every level (including higher education); these are discussed further below. A second theme is the effective management of intellectual property (IP), as existing arrangements are seen as deficient in several respects. Indeed, an opportunity is identified for Ireland to become an International Innovation Services Centre (similar to the International Financial Services Centre), specialising in IP management and dispute resolution, for instance.

The Taskforce Report devotes considerable attention to the financial side of growing and developing innovative enterprises, as international experience shows that this is a key ingredient for success. It sees a transformation needed in the scale and nature of the Irish venture capital system and recommends various new funding instruments and 'business angel' arrangements. Further themes forming the basis for a series of recommendations include the use of public procurement to stimulate innovation, the need for improved broadband infrastructure, a move towards better product design within Irish companies, a change in cultural attitudes to innovation and entrepreneurship (including reform of personal bankruptcy legislation) and a consistent marketing overseas of the innovation message in relation to Ireland by agencies and government.

In the context of education, the Taskforce Report recognises a crucial link between innovation and education and emphasises the need for encouraging creativity and problem-solving skills throughout the education system. At primary and secondary school level the Report is particularly exercised by evidence of weakness in mathematical attainment and recommends measures be taken to address this (including the possible award of bonus points for higher-level mathematics in the Leaving Certificate). The special role of the higher-education system in promoting innovation is stressed, partly through its traditional mission of education and research, but there is also much emphasis on increased industry interaction and prioritisation of entrepreneurship within education as well as on taking account of commercialisation track-records within academic recruitment, promotion and so on. The Taskforce Report is enthusiastic about recent university alliances and acknowledges the important complementary contribution that the arts,



humanities and social sciences can make to innovation, often in new areas of convergence involving science and engineering. In addition, the Report emphasises the opportunities arising from stronger North/South cooperation in higher education and other areas.

The Academy's submission to the Innovation Taskforce made a number of general points, including the importance of drawing from a wide range of disciplines to foster national innovation and creativity, and as already noted, the Report does indeed acknowledge the need for this wider perspective. The Academy's submission also made a series of specific points relating to (a) realistic expectations of returns on publicly-funded research, (b) the limitations of a simplistic reliance on university rankings, (c) the concerns being expressed publicly about a decline in the quality of Irish graduates and (d) the lack of sustainable career pathways for researchers in science. In terms of a response to these issues within the Report, the discussion leading up to recommendation 13.2 alludes to measuring the returns on research, but the recommendation itself is simply that further study be undertaken on this issue. In relation to the other parts of the Academy's submission, the Taskforce Report is silent or has little of substance to offer. The Academy devoted a considerable part of its submission to the problems of career development for early-career researchers, and it is interesting that this was a recurring theme in many other submissions to the Taskforce, but again the Report itself says relatively little except that it is important to 'progress implementation of the research careers framework which has recently been introduced'. However, the Report does make some strong recommendations in support of graduate internships and work-placement programmes at undergraduate and postgraduate levels, which are at least partly relevant to this issue.

Overall, the Innovation Taskforce Report is well-intentioned and it makes a number of interesting and useful recommendations, especially aimed at improving supports for innovation in areas such as finance and IP management. The Taskforce is aware of the parallel study underway by the Higher Education Review Group, and accordingly appears to limit its analysis of fundamental aspects of the higher education (HE) sector. It is disappointing, however, that the Report fails to articulate the intrinsic long-term value of scholarship and higher learning, some of it disinterested and not application-oriented, in developing a well-functioning, creative and innovative society. In placing such great emphasis on connecting research outcomes with industrial impact, the Report does not sufficiently appreciate the nuances between different disciplinary perspectives: for example this activity is natural and intrinsic within engineering, but less so in other areas. Indeed, an interesting avenue not sufficiently explored is whether weaknesses in HE-based innovation in Ireland are related to structural problems in the engineering academic community rather than requiring a radical re-orientation of the entire academic system.

The Academy recognises that in this time of serious national economic distress the higher-education system has a critical role in moving Ireland forward to a new and sustainable model of economic and social development. This requires new thinking and innovation within higher education itself, but in a way that preserves the core intrinsic values of academic freedom, scholarship, discovery and learning. An Innovation Taskforce Implementation Group is now at work, seeking to give effect to the recommendations of the Taskforce Report, and the Academy is available to contribute in any positive and constructive way it can to the work of that group.

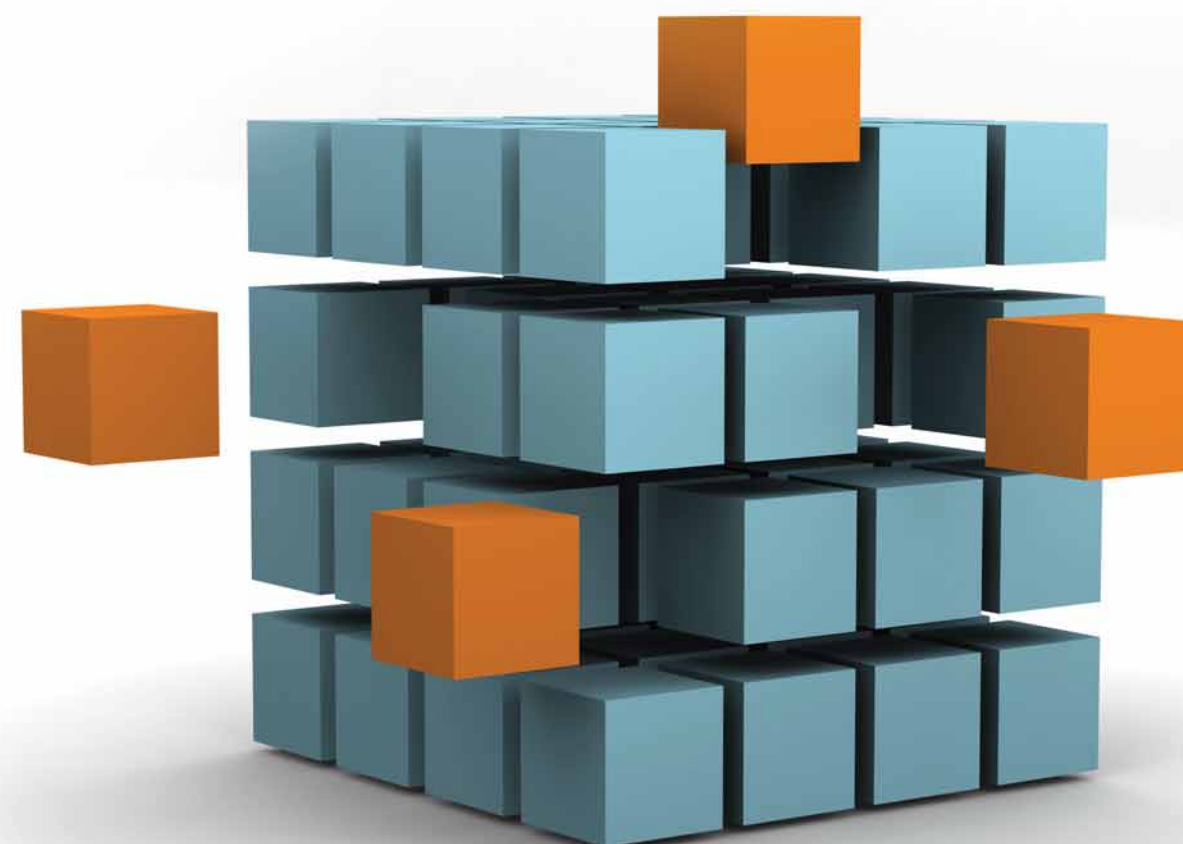
“... in this time of serious national economic distress the higher-education system has a critical role in moving Ireland forward to a new and sustainable model of economic and social development”

Eurosciences Biennale Open Forum

>> SCIENCE SECRETARY PROFESSOR PETER MITCHELL LOOKS TO OPPORTUNITIES AHEAD AS DUBLIN BECOMES EUROPEAN CITY OF SCIENCE IN 2012

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uroscience is a pan-European association committed to creating a more vibrant European scientific identity and dynamic, from the ground up. It represents European scientists of all disciplines (natural sciences, mathematics, medical sciences, engineering, social sciences, humanities and the arts), institutions of the public sector, universities, research institutes and the business and industrial sector. Membership is open to a broad spectrum of research professionals, science administrators, policy makers, teachers, PhD students, post-doctorate students, engineers, industrialists and generally to any citizen interested in science and technology and its links with society.



Euroscience is a relatively recent initiative—founded in 1997 by members of Europe’s research community to provide an independent forum for debate on the latest developments in science and technology and science policy. Its emphasis is on strengthening the links between science and society, contributing to the creation of an integrated environment for science and technology in Europe and stimulating policies to support European scientific research. Much of its focus is on youth and on young scientists, with career development and the facilitation of mobility in the critical years following graduation being given a high priority. Currently, Euroscience has over 2,300 individual members in 40 countries, and 25 corporate members, including the Royal Dublin Society and Science Foundation Ireland. Its headquarters are located in the City of Strasbourg.

Europe lacked the equivalent of annual meetings of the American Association for the Advancement of Science or its recently re-launched British forerunner, the British Science Association, and, in a number of respects, Euroscience’s Open Forum (ESOF) meeting, initiated by Euroscience members in 1998, now fills this space. However, there are some significant differences; for example, Euroscience places greater emphasis on the fusion of the sciences and the humanities, an aspect amply attested to at ESOF2010, hosted recently (2–7 July) by the historic city of Turin, Italy.

ESOF is Euroscience’s flagship event; it was first held in 2004 in Stockholm, followed biennially by Munich, Barcelona and, this year, at the splendid Lingotto Congress Centre in Torino. In 2012, Dublin, having beaten off determined bids from other European cities, will host the next in the ESOF series at the new National Convention Centre overlooking the River Liffey. The task facing the Local Organising Committee for ESOF2012—chaired by a Member of this Academy, Professor Patrick Cunningham (Chief Scientific Advisor to the Irish government)—is formidable, not least at a time of severe budgetary cutbacks. Professor Cunningham and his team must surely be afforded the maximum possible support from the Irish scientific and technological community in the run-in to July 2012.

The Academy is acutely aware of the opportunity that ESOF2012 offers to showcase European and Irish science and technology to a largely Irish audience and to demonstrate the wider cultural links between the sciences and the humanities—indeed, to emphasise that science is an intrinsically cultural activity in and of itself. To this end, Council has set up an Academy sub-committee to canvass ideas and advise on events and initiatives that the Academy could support from within the framework of ESOF2012. All chairpersons and programme managers of Academy sub-committees have similarly been alerted.

ESOF is not simply a scientific conference. The format consists of a forum for discussion of topical issues and cross-disciplinary interaction; an embedded conference and exhibition; an outreach programme with many events (cultural, scientific and social) throughout the host city; and various satellite events, complemented by site visits. In Turin’s case, the latter included research centres such as CERN, Centro Ricerche Fiat, JRC-Ispira and Thales Alenia Space (a satellite design and production facility); and cultural centres like the Villa della Regina, a UNESCO-listed World Heritage Site where advanced sensor technology is applied to the preservation of cultural heritage, and the Turin Royal Library, where priceless works by Leonardo da Vinci are exhibited, including the world-famous self-portrait and the Codex on the Flight of Birds.

At Turin, the scientific programme at the heart of the event comprised a rich mix of plenary and keynote lectures by celebrated international personalities—noted not only for their scientific pre-eminence, but also for their communication skills—and a large number of sessions delivered by other distinguished figures, featuring seminars, workshops and debates on the latest in various fields of knowledge. The active participation of five Nobel laureates added immeasurably to the occasion.

10 themes for debate and discussion were chosen in advance by the Programme Committee, namely:

- ▶ sustainable living and moving;
- ▶ evolution, development and adaptation of organisms;
- ▶ moving into and up from our quantum world;
- ▶ responding to global needs;
- ▶ frontiers in energy research;
- ▶ science, knowledge and belief;
- ▶ memory and learning in organisms;
- ▶ languages, cultures and variability;
- ▶ integrating science with health care; and, finally,
- ▶ policy: what follows?

It is not possible in a short piece such as this to give but a flavour of the nature and diversity of the plenary and keynote lectures and sessions presented in the course of the week in Turin. Suffice to mention that audiences were treated to many memorable presentations, including, for example, ‘Quantum

information and the foundations of quantum mechanics’, by Anton Zeilinger (Professor of Quantum Optics, University of Vienna). Professor Zeilinger pointedly stressed that although research in the field of quantum information science only commenced in the 1970s, it was not motivated by a search for applications, but rather by pure curiosity.

One is reminded of the views of the brilliant Leighlinbridge-born physicist of the nineteenth century, John Tyndall, on what is usually referred to today as ‘pure research’, that

it [science] must be cultivated for its own sake, for the pure love of truth, rather than for the applause or profit that it brings... That scientific discovery may put... millions [of dollars] into the exchequers of nations, the history of science amply proves; but the hope of doing so never was, and it never can be, the motive power of the investigator.¹

Today, by contrast, the focus has shifted to accelerating the innovation process and bringing research more quickly to market, with a view to creating sustainable growth and high-skill jobs. There are those who fear that the pendulum may have swung too far and that the anticipated ‘spin-out’ may not be achieved in the short term, leading to disenchantment among decision-makers and to a decline in the public’s appreciation of the intrinsic value of scientific research.

Other presentations delivered at Turin that captured attention or challenged conventional wisdom included ‘The nature of human altruism’, by Ernst Fehr (Institute for Empirical Research in Economics, University of Zurich); ‘War and peace: conflict and cooperation in an insect society’, by Raghavendra Gadagkar (Centre for Ecological Sciences, Indian Institute of Science, Bangalore); and ‘Science at the interfaces: the biology of music and language’, by Tecumseh Fitch (Department of Cognitive Biology, University of Vienna). Suffice, that these lectures and much other conference material can now be downloaded from the ESOF website: <http://www.esof2010.org>.

Parallel to the scientific programme, there was an impressive career programme dedicated to the needs and specific skill-sets of young researchers, and a novel science-to-business programme targeted at industry. This programme emphasised technology transfer, university–industry relationships—an issue to which the Academy has devoted considerable effort in the recent past—and the creation of highly innovative enterprises.



¹ John Tyndall, *Six lectures on light delivered in America in 1872–1873* (2nd edn, originally published in London, 1875), xvii, 272.



Irish science at ESOF 2010

Irish science was well represented at ESOF2010. The importance of a strong Irish presence on the ground in Turin was communicated widely, well in advance, by the Office of the Chief Scientist. The response of Irish researchers and state organisations was gratifying, with no less than 8 of 140 scientific sessions organised by scientists with an Irish affiliation. Moreover, the European Young Researcher Award at ESOF2010 was won by Irishman Donal Brennan, a post-doctoral Research Fellow at the UCD Conway Institute and specialist registrar in obstetrics and gynaecology at the Coombe Women and Infants University Hospital (Dublin). The award acknowledges Brennan's work on the identification and validation of breast cancer-associated biomarkers, and his strong motivation to translate this research into clinical reality.

It would be remiss not to mention the initiative by the ESOF2012 team (in partnership with the Irish Tourism Authority, Dublin City Civic Authority and Discover Science and Engineering) in organising a Science Communication Bus, staffed by six young Irish 'Science Ambassadors' briefed to field questions about the culture and heritage of their country, which travelled from Dublin to Turin as part of the build up to the event. Minister for Science, Technology and Innovation Conor Lenihan, TD, also took time to visit the Lingotto Centre, and to host a reception at the Circolo dei Lettori within the splendid Baroque-style Palazzo Graneri, to celebrate Dublin's hosting of the next ESOF (or City of Science) meeting.

At the close of ESOF2010, Euroscience issued a declaration urging the European Union, through the European Commission, to make determined efforts to sustain investment in research and innovation, in order to help Europe regain its leadership role in science and return to centre stage in a rapidly evolving and highly competitive world. Failure to act, it was asserted, would see Europe lose out to its traditional competitors and to emerging economies in Asia and South America. Hopefully the message will be widely digested, as it already appears to have been in Germany, where Chancellor Angela Merkel has made clear her government's intention to reduce Germany's large current budget deficit, though not at the expense of investment in research and innovation.²

² Shortly after this report was written, the European Commissioner for Research, Innovation and Science, Máire Geoghegan-Quinn, announced the largest single investment (€6.4 billion) in research and innovation in the history of the European Union under the Seventh Framework Programme. The Irish government similarly announced the largest investment in research in the State's history, with €359 million earmarked for physical infrastructure and research projects under the Programme for Research in Third Level Institutions (PRTL Cycle 5, 2011-16).

In a ceremony attended by Dublin's new lord mayor, Councillor Gerry Breen, and the deputy mayor of Turin, Tom de Alessandri, the ESOF 'baton' was then formally passed to Dublin, which now takes up the challenge.

ESOF2010 was an undoubted success, with feedback overall being highly positive, not least in respect of the outreach programme 'Science in the City'. One had only to experience the atmosphere of youthful enthusiasm and engagement within the Lingotto Centre and Turin in general to concur. The few adverse comments expressed were confined to the business/industrial sector, one or two of whom questioned the return on their investment in the event, and the media, some of whom lamented the paucity, as they saw it, of major "breaking news" stories.

The event attracted 4,300 attendees—half of whom were under 35 years of age, 400 accredited journalists and almost 800 speakers and exhibitors. In addition, an estimated 75,000 visitors participated in the spectacular 'Science in the City' programme, which so enlivened the city's evenings. Much credit must go to Enric Banda (Euroscience

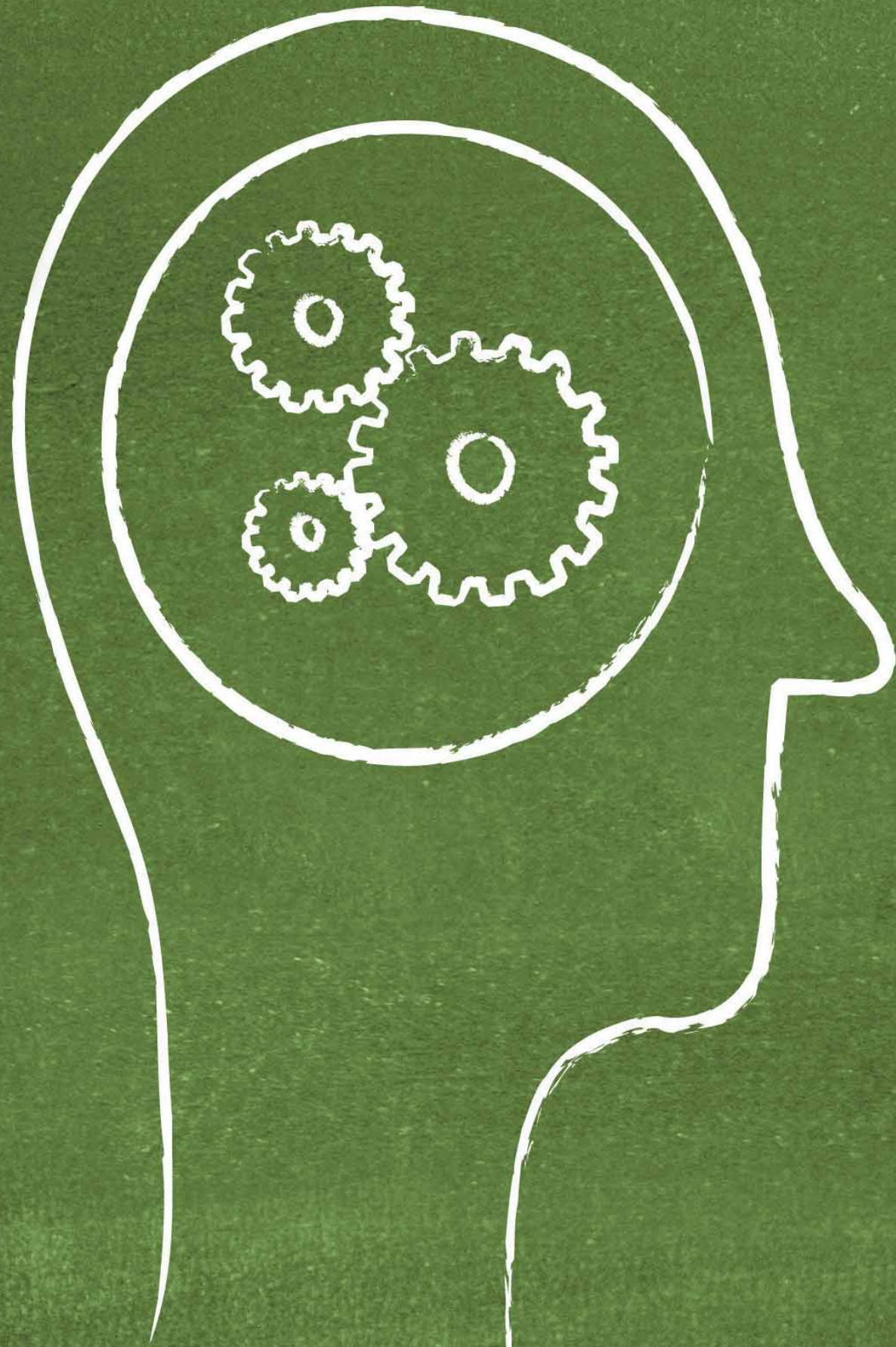
Turin—recognised by many as Italy's motor city—honours, among others, the scientists Amadeo Avogadro, Augustin-Louis Cauchy (who held the quaintly-named chair of 'Sublime Physics' at the University of Turin), Renato Dulbecco (Nobel laureate 1975), Joseph-Louis Lagrange, Rita Levi-Montalcini (who at age 101 is the oldest living Nobel laureate), Pier Giorgio Perotto (designer of the world's first programmable computer) and Tullio Regge. Dublin, like Turin, has a rich scientific heritage—a fact that is, perhaps, under-appreciated by some of its citizens, who rightly celebrate its outstanding literary culture—highlighted recently by its designation as a city of literature by UNESCO. Renowned mathematicians and scientists of Dublin's past who come readily to mind include Arthur William Conway, George Francis Fitzgerald, John Joly, William Rowan Hamilton, Thomas Preston and Ernest Walton (Nobel laureate 1951), to name but a handful.

In conclusion, ESOF2012 offers an excellent opportunity to remind Ireland's young citizens of their proud scientific heritage and to stimulate greater public awareness of, and interest in, science and its vital role in the on-going enrichment of the human experience. The Academy looks forward with anticipation to the next ESOF meeting in Dublin in July 2012 and intends to play an active role in helping to make it, too, a highly successful event.

President) and Enrico Predazzi (Chair, ESOF2010 Steering Committee), together with their fellow Committee members, executive team and host of friendly and ever-willing volunteers.

Quote/unquote

NEW PL&A SECRETARY PROFESSOR MICHAEL CRONIN REFLECTS ON THE IMPORTANCE OF CRITICAL THINKING WHEN A SMART SOCIETY IS NEEDED TO MAKE A SMART ECONOMY



uring the student unrest of the 1960s, one of the slogans shouted at a lecturer in the University of Heidelberg was '*Hier wird nicht zitiert!*', 'No quoting here!' Only original thought should be taught in the universities, the students argued; quoting the ideas or works of others was a ready admission of defeat, an acknowledgment that one was more ventriloquist than seer. As Alberto Manguel has noted, however, the students

were forgetting that to quote is to continue a conversation from the past in order to give context to the present...to quote is to reflect on what has been said before, and unless we do that, we speak in a vacuum where no human voice can make a sound.¹

In times of economic recession and severe cutbacks, the danger is that yesterday's student slogan becomes today's policy prescription. No quoting of useless knowledge here, because this is not what the economy needs. 'Jobs not Jaspers' becomes the mantra of the cost-cutting *nomenklatura*. The threat in such a climate is that a highly instrumentalised view of science and technology becomes the only conceivable paradigm for investment in education and research. Such a view is not only questionable in terms of its own economic rationale but presents a grave challenge to the very democratic basis of the societies that promote such policies.

A fundamental feature of a successful democratic society is the requirement for empathy. One of the duties of a citizen in a democracy is to learn what it is to be someone not like oneself and to be aware of the impact of choices that one makes on the lives of others. This can involve everything from the way we design entrances to our public buildings to the way we strive to avoid racial profiling in the policing of our streets. In a world of global interdependence, where our needs are catered for by people we will most probably never meet (the cotton shirt from India or the iPhone from China), forms of empathy need to be global as well as local. The capacity to imagine and understand the lives, feelings and historical experiences of others is crucial to the creation of sustainable human communities where citizens can remain equal in their difference. When we conceive of progress, it is typically in these terms. A particular group—the disabled, a sexual, ethnic or religious minority—is accorded rights of equal citizenship as a result of more inclusive forms of empathy. Conversely, bigotry, persecution, discrimination, exploitation are seen as undermining democratic promise because they fatally restrict empathy to privileged groups in a society. A singular contribution of the

¹ Alberto Manguel, *The library at night* (Toronto, 2006), 224.

humanities and social sciences (HSS), from the disciplines of sociology, psychology, philosophy and anthropology to the teaching of history and literature, is to develop and strengthen the empathetic imagination. Without such imagination, the very cohesiveness of our societies is put in peril and the ability for a country to function in a globalised world becomes highly problematic. The rise of gated communities in urban centres all over the island of Ireland or the challenge, domestically and internationally, of humane responses to migration show that there is no room for complacency. As principal enablers of local and global empathy, the humanities and social sciences are fundamental to the construction and maintenance of a democratic polity in globalised settings.

Of course, thinking about others involves, by extension, thinking critically about oneself. Thinking in this way is only likely to emerge in a culture that actively values the role of critical thinking. In the aftermath of the economic boom in Ireland, there is

general agreement that what characterised the period was a lack of critical reflection; a general failure to stand back and assess the nature and impact of specific developments. The clear implication is that the country is in need of a culture of critical thinking. The need is not only economic but ethical, as is shown by the crisis of authority in the institutional churches, state bodies (such as the Health Service Executive) and the major banks. The predominance of rote-learning in second-level education, with 'teaching to the test' the pedagogic norm, shows that independent, critical, evaluative thought has shallow roots and requires urgent attention. The implication would appear to be that those areas of inquiry that challenge, yes—culture, uncritical reflection, undue submission to authority—should be at the heart of programmes of social and economic renewal. Yet what has happened is that in Ireland an already underfunded Irish Research Council for the Humanities and Social Sciences (IRCHSS) has had its budget further reduced, and in Northern Ireland the Research Excellence Framework (REF) has further strengthened the hold of narrow market utilitarianism on third-level funding.

How is it possible, however, to have a Smart Economy without a Smart Society? Innovation, by definition, involves doing something that has not been done before, but to do this you have to think critically about what has been done previously and think imaginatively about what could be done differently in the future. No economy is made smarter by the dumbing-down of society. The development of critical acumen and the enhancement of imaginative capacity, core elements of the humanities and social sciences and of basic scientific and mathematical research, are

necessary for any society that is serious about creating a viable future for its citizens.

Traditionally, a way of gauging the advance of a society has been to assess the quality of its physical infrastructure. Both the North and South of this country over the recent decades have seen substantial sums of money invested in infrastructure, notably in road building. There is another infrastructure that is less visible but no less important, and this is the intellectual infrastructure of a country. Recognition of this fact has been evidenced in Ireland by the operation of the five cycles of the Programme for Research in Third Level Institutions (PRTL). However, it is striking that though there have been a number of notable success stories, overall funding for the humanities and social sciences under PRTL remains significantly low. This would imply that, at the very least, there is a problem of recognition, a failure to understand the full significance of HSS research for society, a problem that is compounded at European level by the relatively narrow focus of the European Union Framework programmes funding



research. In one sense, paradoxically, the problem of recognition is to do with exposure, but of the wrong kind. If one takes a typical daily broadsheet, approximately 95 per cent of the content—from articles on public sector reform, to car accidents, to foreign affairs reports, to columns on personal finances and law matters—covers areas that are properly the domain of HSS disciplines such as sociology, political science, legal studies, sociology and psychology. However, being everywhere is in reality being nowhere. Whereas specific science or science and technology pages explicitly identify the existence of scientific inquiry and can make a connection between various forms of research and identifiable outcomes, no such coherent or recognisable platform exists for HSS research. The very diffuseness of its effects ironically weakens rather than strengthens its case for support.

Further evidence of this relative invisibility is general media indifference to the very significant publishing output of HSS researchers. Aside from a clutch of titles in history and literary biography, the vast majority of publications produced by HSS scholars working in Ireland are

ignored by the print and broadcast media. Just to take publishing houses based in Ireland—An Clóchomhar, Blackhall Publishing, Cork University Press, Four Courts Press, Irish Academic Press, Liffey Press, Oak Tree Press, Queen's University Press, UCD Press—how many titles on their lists will receive anything like adequate attention or commentary? In the mid-1960s less than one-third of the 22 per cent of children who did the Leaving Certificate examination went on to university. By the beginning of the new century almost 60 per cent of school leavers in Ireland went on to enter third-level education. For four decades there has been a continued and welcome rise in the educational attainments of the population, both North and South. The island has never had such a large number

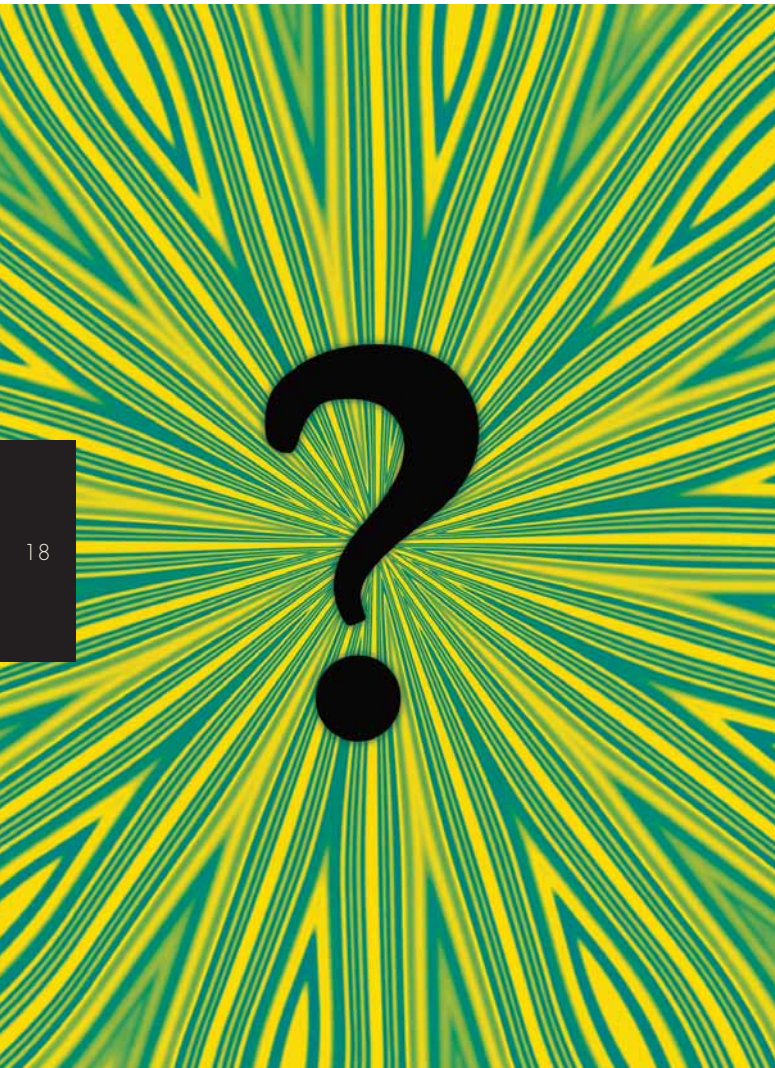
of educated people, and the figures continue to rise. Despite continued concerns over access, the government has welcomed this development as part of a larger commitment to transform Ireland into a 'knowledge society'. Just as the educational levels of the country are rising and we are being asked to become an active and integral part of an increasingly complex knowledge environment, the response of the broadcast and print media has been to maintain a studied indifference to a substantial part of the country's intellectual infrastructure. As people become more educated, it becomes less popular to take their education seriously.

The philosopher Martha Nussbaum in her recent work, *Not for profit: why democracy needs the humanities*, speaks of the type of education presupposed by democratic self-governance. The type of citizen required is:

an active, critical, reflective and empathetic member of a community of equals, capable of exchanging ideas on the basis of respect and understanding with people from many different backgrounds.²

A vibrant, autonomous, critical humanities and social sciences culture is vital to the democratic future of Ireland. Otherwise, we will be left with Manguel's vacuum where the human voice will be forever silenced.

“the country is in need of a culture of critical thinking. The need is not only economic but ethical, as is shown by the crisis of authority in the institutional churches, state bodies (such as the Health Service Executive) and the major banks.”



² Martha C. Nussbaum, *Not for profit: why democracy needs the humanities* (Princeton, NJ, 2010), 141.

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stronomy appeals to something deep within the human psyche. On a truly grand scale it facilitates mankind's innate curiosity to seek scientific answers concerning the matter and energy content of the Universe and how cosmic order and structure has emerged since the cosmos expanded from the primordial 'Big Bang' about 15 billion years ago. It also seeks to answer deep questions about time, space, galaxies, stars, planetary systems and cosmic radiation. It poses fundamental philosophical questions about humanity's place in the Universe and whether or not we are unique or whether other civilizations exist. It also cautions us concerning the importance of recognising that anthropomorphic thinking may be deeply embedded in our scientific methodology and reasoning.

A vision for astronomy and astrophysics in Ireland

>> SENIOR VICE-PRESIDENT PROFESSOR DAVID FEGAN TRACES THE JOURNEY OF THE COSMOS FROM THE BIG BANG

Though not always intuitively obvious, the societal impact of astronomy is immense. Few human experiences are as profoundly moving as observing the Milky Way (the plane of our galaxy seen side-on), from a dark site without any unwanted optical pollution in the background. We owe almost all our energy resources indirectly to the nuclear fusion processes that occur deep within the Sun. Assuming we could collect and harness it, the radiant solar energy received by the Earth every second would be sufficient to satisfy humanity's energy needs 10,000 times over. Solar activity, coupled with the complexities of the Earth's orbital motions, plays a significant long-term role in climate change. Astronomy and navigation have for centuries been linked, never more so than at the present time, as a network of global positioning satellites (GPS) offers peerless accuracy in determining absolute position on the Earth's surface to an accuracy of a few metres.

Our perspective of the Universe and how it works is constantly being updated through a plethora of astronomical observations; through theorising and computer modelling and simulation. Up to the end of the 1950s our knowledge and understanding of the cosmos was based almost exclusively on evidence gathered by optical and radio telescopes, which painstakingly mapped the skies in a quest to see ever deeper into space and consequently ever further back in time, from the present epoch of cosmic evolution. Today, astronomy is no longer simply an observational science based on discovery using visible light and radio waves. Fifty years on from the birth of what is euphemistically called the 'space age' we now possess the technological capability to observe and study the cosmos through a variety of alternative complementary observational 'windows'. With the development of the microchip and allied digital technologies (computers, electronic memory, navigational systems, *et cetera*) placing astronomical instruments on board orbiting spacecraft has become commonplace, albeit at significant financial cost. The astronomical community is now empowered to search for new astrophysical phenomena through

alternative observational 'windows' such as the infra-red, X-ray and Gamma-ray parts of the electromagnetic spectrum. In addition, sophisticated new projects are currently under development to search for more exotic forms of cosmic messengers, such as cosmic neutrinos and gravitational waves. Much of contemporary research involves the active collaboration of theoretical and observational astronomers, astrophysicists and space scientists, as traditional distinctions between the various practitioners diminish.

During the past decade and a half, both ground-based and space-based experimentation have enabled fantastic progress to be made, with stunning new discoveries in galactic and extra-galactic astronomy and also in cosmology. Worldwide, as the community strives for bigger, better and more sensitive instruments, progress is predicated on collaboration and the use of centralised facilities where many state-of-the-art instruments may be concentrated, thereby facilitating a more integrated approach to observations. Representative of such integrated strategic approaches are NASA (National Aeronautics and Space Administration), ESA (European Space Agency), ESO (European Southern Observatory), to take a few examples. In addition, in Europe, specific ERA-NET (European Research Area Networks) roadmap projects or programs draw together funding agencies and other stakeholders in order to coordinate and plan for specific programs of astronomical and astrophysical research, examples of which are ASTRONET (Astronomy) and ASPERA (Astroparticle Physics—astronomy at generally higher energies, coupled with related particle physics research).

Ireland has a long and illustrious research tradition in astronomy.¹ At present, virtually all Irish universities participate in research and offer extensive undergraduate course options as well as postgraduate training. The Royal Irish Academy's Committee for Astronomy and Space Sciences² is the main interface between the International Astronomical Union and the community of Irish astronomers, astrophysicists and space scientists. Membership is drawn from across the whole island



of Ireland, with representation reflecting all major professional stakeholders as well as amateur astronomers. With the objective of planning a coherent strategy for the future of Irish research in astronomy and astrophysics, and with particular emphasis on the absolute necessity of accessing major international facilities in a more than ad hoc fashion, a sub-group of the Committee has drawn up a plan for consideration by government.³ Titled 'National plan of the astronomical community in Ireland: a vision for astronomy and astrophysics in Ireland, 2010–2020', this important document formulates a visionary blueprint for the next decade, with strong emphasis on establishing Irish membership of ESO as a top priority. In addition to offering access to some of the world's best observational facilities and latest technology at the superb viewing site in Chile, ESO membership comes with a comprehensive package embracing technology transfer, educational support, outreach programs and economic returns. The decadal plan, inspired by similar documents drawn up in Denmark, the Netherlands, Germany and the UK, reflects what needs to be done nationally in order to both collaborate and compete with the very best institutions across the globe.

Complementary to facilitating this decadal vision, the Academy is also examining the benefits that might arise from engaging with the ASPERA consortium. ASPERA is a European network of national government agencies responsible for coordinating and funding national research efforts in astroparticle physics. ASPERA started in July 2006 and has been extended for another three years from 2009. The main achievements of ASPERA⁴ are the development of the European strategy for astroparticle physics and the preparation of a roadmap for this research field. Furthermore, ASPERA fosters interdisciplinary activities spanning environmental sciences and research and development cooperation with SMEs (small to medium enterprises) in Europe.

“The absolutely fundamental nature of many of the unresolved questions in these disciplines serves to attract the best and the brightest students and acts as a catalyst for even broader scientific enquiry and research.”

Given the fundamental importance of astrophysical research and the high public interest in that discipline, the astrophysical community is ever mindful of the importance and utility of the subject in contributing to graduate and post-graduate training through its very strong basis in mathematics, physics, computation, modelling, simulation and instrumentation. Despite the world-wide downturn in recruitment of talented students into physics and engineering, many talented young people have continued, in large numbers, to pursue research careers in astronomy, astrophysics and particle physics. The absolutely fundamental nature of many of the unresolved questions in these disciplines serves to attract the best and the brightest students and acts as a catalyst for even broader scientific enquiry and research. Highly trained as problem-solvers with analytical, numerical and computational expertise and skills, many PhDs subsequently seek professional careers contributing to knowledge-intensive economies across a broad spectrum of scientific activities.

The past 25 years (but particularly the first decade of this century) has proved to be one of the most exciting and productive ever for astrophysics. Aside from fantastic advances individually in astronomy, cosmology and particle physics, synthesis of many of the new results poses new and even more challenging questions, of which a few are worthy of highlighting here.

► (1) Cosmological studies inform us that normal matter (visible radiating stars and galaxies) comprises only 5% of the total mass of the Universe. Approximately 23% of the mass is attributed to *dark matter* (hidden and invisible to observation), which reveals itself only through the influence of gravitational attraction. The other 72% dominant component of the Universe's mass is now considered to be attributable to a mysterious 'dark energy', which is hypothesised to explain the fact that the rate at which the Universe is

expanding may itself be accelerating! This enigmatic component is thought to be a critical determinant in the long-term evolution of the Universe and may ultimately dictate its fate. Many experiments are being planned or are under development in order to search for cosmic signatures of these exotic contributors to the overall inventory of the Universe. The jellybean image below depicts the relative proportions of visible (coloured) and invisible (black) matter in our Universe. (Image courtesy of Fermilab)

► (2) Galaxies pose many fundamental questions. As we look further and further into deep space with ever more powerful telescopes, we observe galaxies at earlier and earlier epochs of time, facilitating observation of younger and younger stellar systems. Many deep questions are posed. How did the earliest generation of stars emerge? Were stars formed before the first galactic components? How do supermassive black holes form at the centres of galaxies and how do they grow?

► (3) The recent observation of exo-planets has become a hot-topic in experimental astronomy. Exo-planets are planets that have been detected in orbit around nearby stars other than our own sun. The observations are made from the Earth's surface by using sensitive telescopes and spectroscopic techniques, and at the time of writing, in excess of 460 exo-planets have been discovered. Most of these discovered to date are 'giants', equivalent to Jupiter, Saturn, Uranus and Neptune in our own solar system. While the field is still at the infancy stage, it is a very important development and raises questions as to whether or not such objects might support life forms. Naturally, the discovery has renewed speculation concerning the possible existence of intelligent life elsewhere in the Universe.

A vision for the Irish astronomical community is to undertake world-class research on these and other fundamental contemporary questions, within the framework of a formal coherent national plan underpinned by membership of ESO and ASPERA and supporting competitive agency funding



¹ See Patrick Wayman, *Dunsink Observatory 1785–1985* (Dublin, 1987).

² For information on the work of the Academy's Committee for Astronomy and Space Sciences see: <https://www.ria.ie/Our-Work/Committees/Committees-for-Science/Astronomy-and-Space-Sciences-Committee.aspx> (25 August 2010).

³ E.J.A. Meurs *et al.*, 'National plan of the astronomical community in Ireland: A vision for astronomy and astrophysics in Ireland, 2010–2020'.

⁴ Further information on the achievements of ASPERA can be found in 'Astroparticle physics—the European strategy', available at: <http://www.aspera-eu.org> (25 August 2010).

New Members ▶▶ SCIENCES



Mark Bailey is Honorary Professor at Queen's University Belfast and Director of Armagh Observatory. His scholarly work spans several fields in astronomy, most recently in solar system dynamics and the origin of comets. His book *The origin of comets* (1990), with S.V.M. Clube and W.M. Napier, achieved high international acclaim. In addition to his frontline scientific research, Professor Bailey has made several important contributions to the history of astronomy.



John J. Boland is Professor of Chemistry and Director of the CRANN Nanoscience Institute at Trinity College Dublin. He is internationally recognised as an expert on the properties of surfaces and interfaces and the role of stress in surface reactivity. Professor Boland's research interests focus on understanding nanoscale processing and materials properties for advanced device applications, including the development of new protocols for assembling, fabricating and testing nanometre-scale device structures. He has pioneered important advances in the areas of chemical passivation, materials growth and the development of novel nanoscale interconnects and devices.



Hugh Brady has been President of University College Dublin since 2004. A nephrologist by training, Dr Brady has become internationally recognised as a medical researcher specialising in the molecular basis for inflammatory disease and the complications of diabetes. Other research interests include the application of novel genomic and bioinformatic approaches to the identification of novel therapeutic targets in renal disease and investigation of the molecular components of pro-resolution pathways in inflammation that can be harnessed for therapeutic gain. Dr Brady lists over 140 publications, including 78 peer-reviewed research works and 35 review articles.



Stefan Decker holds the chair of Digital Enterprise at the National University of Ireland, Galway and is director of the Digital Enterprise Research Institute, one of the leading institutes in Web science and the evolution of the World Wide Web. He is one of the most cited Web scientists internationally, and his current research interests include 'Semantics in collaborative systems', 'Web 2.0' and 'Distributed systems'. Professor Decker has been one of the first researchers to recognise the importance of the exchange of social and collaboration metadata on the Web.



Timothy Foster is Professor of Molecular Microbiology at Trinity College Dublin. His research interests include antibiotic resistance mechanisms, immune evasion mechanisms and virulence factors. He is recognised for his pioneering research on *Staphylococcus aureus* (MRSA), a bacterium that can cause serious infections in humans and farm animals, and which is notorious for being resistant to many antibiotics. By studying proteins from the bacterial cell surface, Professor Foster tries to understand the mechanisms that allow the bacterium to colonise human skin as well as occasionally to cause invasive disease.



Jane Grimson is Professor of Computer Science and Head of the Department of Computer Science at Trinity College Dublin, a founding member of the Centre for Health Informatics at TCD and Chairperson of the Irish Research Council for Science Engineering and Technology. Her research has covered a broad range of topics in the areas of knowledge and data management, focusing on the development of advanced information systems to improve the efficiency, effectiveness and safety of healthcare. Professor Grimson's current research is in the area of electronic healthcare records and system integration.



Alan Jones is Senior Professor and Head of the Geophysics Section in the Dublin Institute for Advanced Studies. He is a world leader in the use of the magneto-telluric method to probe the Earth's crust by recording its response to naturally occurring electromagnetic fields. This technique offers a complementary technique to Seismic Studies, and Professor Jones has used it to yield new insights into the deep structures underlying regions as diverse as the Canadian shield plateau and the Himalayan plateau.



Martin Mathieu obtained his doctorate and *Privatdozent* from the University of Tübingen in Germany and is now a reader in the Department of Mathematics at Queen's University Belfast. He spent periods as a lecturer and researcher in mathematics in many universities in Europe and North America. His research area is that part of pure mathematics called functional analysis, and he is a world authority on the theory of local multiplier algebras. Dr Mathieu's research encompasses a diversity of techniques and results from many areas of algebra and analysis. He extensively promotes mathematical research through conference organisation and journal editorship.



Malachy McCann has been a teacher and researcher in the Department of Chemistry at the National University of Ireland, Maynooth since 1983. His research background is in synthetic coordination chemistry and assessing the therapeutic potential of complexes as metal-based drugs. Drawing on his background as a synthetic and structural coordination chemist, he has employed metal complexes as catalysts for organic transformations, olefin polymerisations and also metalloenzyme mimetics. Recently, Dr McCann prepared and screened potential new drug candidates for use in the area of anti-microbial and anti-cancer chemotherapy.



Eoin O'Reilly is Research Professor of Photonics at the Tyndall National Institute and at University College Cork. He directs a world-leading group whose interests span from fundamental semiconductor physics through to the engineering of semiconductor lasers. He is widely recognised for his pioneering ideas and analysis of semiconductor laser and optical devices, which have had a significant impact on optical communication and wider photonic applications. Professor O'Reilly's list of over 200 publications includes seven book chapters, review papers and articles for the journal *Physics World*.



Paul Ross is Head of Food Research at Teagasc and Adjunct Professor at University College Cork. During his 25-year research career he has published over 250 peer-reviewed papers and has earned a reputation as a scientist of international consequence in the areas of food microbiology, functional foods and genomics. Professor Ross has provided outstanding leadership in developing the biotechnology programme at Moorepark and the Alimentary Pharmabiotic Centre at UCC, in supervising graduate students and in carrying research results through to application in the food industry.



Da-Wen Sun holds the chair of Food and Biosystems Engineering at University College Dublin. His many scholarly works have become standard reference material for researchers in the areas of computer vision, computation fluid dynamics modelling and vacuum cooling. Professor Sun has published well over 200 peer-reviewed papers in international journals and has edited 10 authoritative books. He is Editor-in-Chief of the journal *Food and Bioprocess Technology* and Editor of the series *Contemporary Food Engineering*. Thomson Scientific ranks him among the top one per cent of authors cited in the agricultural sciences.

New Members ►► HUMANITIES AND SOCIAL SCIENCES



Maria Baghramian is Associate Professor of Philosophy at University College Dublin and Co-Director of the Cognitive Science Programme at UCD. She was a founding member of the Editorial Board of the *International Journal of Philosophical Studies*. Professor Baghramian is internationally recognised for her research in the philosophy of language and contemporary American philosophy. Her monograph *Relativism* (2004) is regarded as a definitive contribution to the topic. Her work *Modern philosophy of language* (1998) has been widely adopted as a textbook in the area and has been translated into Chinese.



Caoimhín Breatnach is Senior Lecturer in Modern Irish at University College Dublin. He is widely acknowledged as a principal authority in the field of Classical Irish Philology, with a special interest and expertise in all aspects of the transmission and content of early modern political and religious literature. He is a joint editor of the *Apocrypha Hiberniae* project for the prestigious *Corpus Christianorum* series (published by Brepols). Dr Breatnach is a former Government of Ireland Senior Research Fellow and has lectured widely internationally.



Mark Thornton Burnett is Professor of English Literature at Queen's University Belfast. He is acknowledged as one of the leading figures in Renaissance Literary Studies today, with an admired standing internationally. The author of a series of highly influential monographs and editions, Professor Burnett has recently been a key figure in opening up the field of adaptations and appropriations of Shakespeare in modern culture across the world. This is evident in his book *Filming Shakespeare in the global marketplace* (2007) and his current project *Shakespeare and world cinema*.



James Stevens Curl is Professor Emeritus of Architectural History at De Montfort University, Leicester and Honorary Research Fellow at Queen's University Belfast. His wide-ranging, pioneering and internationally acclaimed research has resulted in numerous books, distinguished by his rare and compelling combination of passion and scholarship. Among his many definitive works are: *Victorian architecture: Diversity and invention* (2007); *Oxford dictionary of architecture and landscape architecture* (2006); and *The Egyptian revival: Ancient Egypt as the inspiration for design motifs in the West* (2005).



Mary Daly is Professor of Sociology at Queen's University Belfast. She is one of Ireland's foremost analysts of welfare regimes. As a comparative sociologist well known in Europe, she works on the divide between social policy and sociology and engages closely with European policymaking. Her recent research interests include the development of social policy under the Lisbon Strategy. Professor Daly has developed a world-wide reputation for her work on gender and welfare, on which she has published extensively, and more recently on European Union social policy and the sociology of the family.



Caroline Fennell is Professor of the Faculty of Law at University College Cork and Chairperson of the Irish Research Council for the Humanities and Social Sciences. Professor Fennell was Dean of the Law Faculty at UCC from 1996–99 and is an external examiner in the Law of Evidence for the Kings Inns and a consultant on the Law of Evidence for the Law Society of Ireland. Her publications include *Crime and crisis in Ireland; justice by illusion* (1993) and *Labour of evidence in Ireland* (2nd edn, 2003).



Siniša Malešević is Senior Lecturer at the School of Political Science and Sociology at the National University of Ireland, Galway. His research interests are in the areas of comparative-historical and theoretical study of ethnicity and nationalism, ideology, war and violence, as well as in sociological theory. He has written on the great conflicts of our times, notably those of Rwanda and the former Yugoslavia. Dr Malešević's most recent work, *The sociology of war and violence* (2010), first published in English, is being translated into Croatian and Serbian.

Honorary Members



Maurice Manning is Adjunct Professor at the School of Politics and International Relations at University College Dublin. His publications include five books on modern Irish politics and numerous academic papers. Dr Manning served for 25 years in the Dáil and Seanad Éireann. In 2001 he was appointed by the government to chair the first Irish Human Rights Commission (IHRC), a position he still holds. Dr Manning was also elected Chancellor of the National University of Ireland in 2009 and is Chair of the European Group of National Human Rights Institutions.

Pól Ó Dochartaigh is Professor of German and Dean of the Faculty of Arts at the University of Ulster. His scholarly work on the legacy of the Holocaust combines literature, history and film in an interdisciplinary way, while his work on German-Irish cultural relations includes significant new insights into the history of Celtic Studies. Professor Ó Dochartaigh's biography of Julius Pokorny, the Austrian Celtist and refugee from the Nazis, *Julius Pokorny, 1887–1970: Germans, Celts and nationalism* (2004), was greeted with international academic acclaim on its publication.

Mary O'Dowd is Professor of Gender History at Queen's University Belfast. She is an authority on early modern Irish history and is one of the leading Irish practitioners of gender history. Her many publications, which include *Power, politics and land: early modern Sligo, 1568–1680* (1991); *Field Day anthology of Irish writings, volumes 4–5* (co-editor, 2002) and *A history of women in Ireland, 1500–1800* (2005), combine profound archival knowledge and attention to detail with an acute awareness of the most recent trends in historiography.

Karl Whelan is Professor of Economics at University College Dublin since 2007. Previously, he worked in central banking at the Federal Reserve Board and the Central Bank of Ireland. His research focuses on a wide range of topics in applied macroeconomics and has been published in many of the leading economics journals, such as the *American Review* and *Journal of Monetary Economics*. Professor Whelan currently acts as an advisor to the European Parliament on issues relating to monetary policy and contributes regularly to economic policy debates in Ireland.

James Whiston has been a Fellow and Associate Professor of Spanish at Trinity College, Dublin, where he has spent all his academic life. He is one of the world's leading authorities on the novels of Pérez Galdós. Professor Whiston also specialises in the writings of Antonio Machado during the Second Spanish Republic (1931–9) and the writings of Manuel Azaña. Professor Whiston has published important books and articles on Jorge Luis Borges, Federico García Lorca and Antonio Machado. He is also acknowledged throughout the world of Hispanic Studies and is General Editor of the *Bulletin of Spanish Studies*.

Peter Brown is Philip and Beulah Rollins Professor of History at Princeton University. He is credited with having created the field of study referred to as Late Antiquity (AD 250–800). Professor Brown's primary research interests are the transition from Antiquity to the Middle Ages and the rise of Christianity, and he has pursued these interests through investigations into such diverse topics as 'Roman rhetoric', 'The cult of the saints' and 'Wealth and poverty'. He is the author of a dozen books, including *The world of Late Antiquity* (1971) and *Poverty and leadership in the later Roman Empire* (2002).

Rita Colwell is Distinguished University Professor both at the University of Maryland, College Park and at Johns Hopkins University, Bloomberg School of Public Health, and Chairperson of Canon US Life Sciences, Inc. Professor Colwell served as 11th Director of the US National Science Foundation (NSF) from 1998–2004. In her capacity as NSF Director, she served as Co-Chair of the Committee on Science of the National Science and Technology Council. Born in Beverly, Massachusetts, Professor Colwell holds a BS in Bacteriology and an MS in Genetics from Purdue University, and a PhD in Oceanography from the University of Washington. She is a board member of Science Foundation Ireland.

Robert Fitzroy (Roy) Foster is Carroll Professor of Irish History at Oxford and a Fellow of Hertford College and the British Academy. He is the author of many books on the political, social, cultural and literary history of Ireland, including *The Irish story: telling tales and making it up in Ireland* (2001) and *Modern Ireland: 1600–1972* (1988). Professor Foster was the author of the official biography of W.B. Yeats, published in two volumes, *W.B. Yeats, A life, I: The apprentice mage, 1865–1914* (1997) and *II: The arch poet, 1915–1939* (2005). His most recent work concerns social and political change in Ireland in the late-twentieth century.

Susan Hockfield is the 16th President of the Massachusetts Institute of Technology. Dr Hockfield is a noted neuroscientist whose research has focused on the development of the brain and on glioma, a deadly kind of brain cancer. She pioneered the use of monoclonal antibody technology in brain research, leading to her discovery of a protein that regulates changes in neuronal structure. More recently, she discovered a gene and its family of protein products that play a critical role in the spread of cancer in the brain and may represent new therapeutic targets for glioma.





Karl Theodore (Theo) Hoppen studied at UCD (BA 1961 and MA 1964) and Trinity College Cambridge (PhD 1967). From 1966 to 2003 he was a member of the History Department in the University of Hull (where he is now Emeritus Professor). Between 1994 and 1996 he was a British Academy Research Reader in the Humanities. In 2001 he was elected a Fellow of the British Academy. Theo Hoppen has published and edited a number of books (as well as numerous articles) on Irish and British history in the period since 1680. He is an editor of the RIA's *Dictionary of Irish Biography* (2009).

Geoffrey Roger Luckhurst has been Emeritus Professor at the University of Southampton since 2004. He is a Fellow of the Royal Society of Chemistry and an Honoured Member of the International Liquid Crystal Society, of which he is a former president. Professor Luckhurst is a co-founder of the international journal *Liquid Crystals*, which has recently celebrated its 20th anniversary. His research is aimed at understanding the behaviour of liquid crystals at both molecular and macroscopic levels and involves work in design and synthesis, physical characterisation and molecular modeling and analytic theory.

John Morrill has been Professor of British and Irish History at the University of Cambridge since 1998, as well as Vice-Master of Selwyn College, Cambridge since 1994. He was Vice-President of the British Academy (2001–9); member and trustee of the Arts and Humanities Research Board of Great Britain and Northern Ireland (2001–5); Consultant Editor for 6,000 seventeenth-century lives in the *Oxford dictionary of national biography* and contributor to the RIA's *Dictionary of Irish Biography* (2009). He has written and edited 19 books on early modern British and Irish history, and he is an expert on state formation and confessional politics.

Ernest Nicholson graduated with a first-class honours degree in Semitic Languages from Trinity College Dublin in 1960, and in 1964 obtained a PhD from the University of Glasgow. He was Oriel Professor of the Interpretation of Holy Scripture at the University of Oxford and a Fellow of Oriel College from 1979 to 1990. In 1987 Professor Nicholson was elected a Fellow of the British Academy, and from 1990 until his retirement in 2003 was Provost of Oriel College. Among Professor Nicholson's publications are *Deuteronomy and tradition* (1967) and *The Pentateuch in the twentieth century: The legacy of Julius Wellhausen* (1998).

Philip Pettit is Laurance S. Rockefeller University Professor of Politics and Human Values at Princeton University. He is a Fellow of the American Academy of Arts and Sciences and a Fellow of the Australian Academies in Humanities and Social Sciences. He is Honorary Professor at both Queen's University Belfast and Sydney University. Among his books are *The common mind* (1996); *Republicanism* (1997); *Made with words* (2008); *Economy of esteem* (2004) with G. Brennan; *A political philosophy in public life: Civic republicanism in Zapatero's Spain*, with J.L. Marti (2010); and *Group agency* (2011) with C. List.

John Brewer was elected President of the British Sociological Association during the academic year 2009–10 and appointed to the United Nations Roster of Global Experts.

Maurice Bric was awarded the NUI Irish Historical Research Prize for 2009 for his book *Ireland, Philadelphia and the re-invention of America 1760–1800*.

Angela Bourke held a Bogliasco Fellowship at Centro Studi Ligure, Bogliasco, Italy, from April–May 2010.

D. Thorburn Burns received the Award for Service to Chemistry by the Royal Society for Chemistry, presented at the Prize Ceremony in Birmingham in November 2009.

Anne Buttimer was appointed Chairperson of the Social Sciences Section of the Council of Academia Europaea.

Bruce Campbell was elected a Fellow of the British Academy in July 2009 (Section S2: Economics and Economic History).

John Corish was awarded the Boyle-Higgins Gold Medal of the Institute of Chemistry of Ireland for 2009.

Máireád Nic Craith was appointed DAAD Guest Professor at the Institute of Cultural Anthropology/European Ethnology at the University of Göttingen.

Edward Patrick (Paddy) Cunningham was presented with the Lord Mayor of Dublin's Award in 2009.

Michael Guiry was recipient of the 2010 PSA Award of Excellence by the Psychological Society of America at its Annual Meeting at the State University of Michigan, East Lansing, Michigan, USA.

George Irwin was awarded the 2010 Sir Harold Hartley Medal by the trustees of the Institute of Measurement and Control and elected a Fellow by the Council of IFAC (International Federation of Automatic Control).

Keith Jeffery was awarded a D Litt by Cambridge University in February 2010.

Séamus Mac Mathúna was elected 'Korrespondierendes Mitglied im Ausland' (Corresponding Member Abroad) of the Austrian Academy of Sciences in April 2009.

Séamus Martin was elected to the European Molecular Biology Organization (EMBO). He was appointed to the Editorial Board of the AAAS journal *Science Signalling* and appointed to the Editorial Board of *Oncogene*.

Vincent McBrierty was promoted to the rank of Knight Commander with Star in the Papal Order of St Gregory the Great.

Peter Neary presented the 2008–9 Frank D. Graham Memorial Lecture at Princeton University in April 2009.

Kevin H. O'Rourke was awarded an ERC Advanced Investigator Grant to study 'Trade policy and the Great Depression'.

Stephen Royle was elected a Fellow of the Royal Historical Society (FRHistS) in December 2009.

William Schabas was awarded an honorary doctorate of law by Case Western Reserve University, in Cleveland, Ohio in May 2009. In 2010 he was awarded the Vespasian V. Pella Medal in International Criminal Law by the Association Internationale de Droit Pénale.

Paul Sharp was elected to Fellowship of the Royal Society of Edinburgh (FRSE) in 2010.

David Spearman was elected a Pro-Chancellor of the University of Dublin.

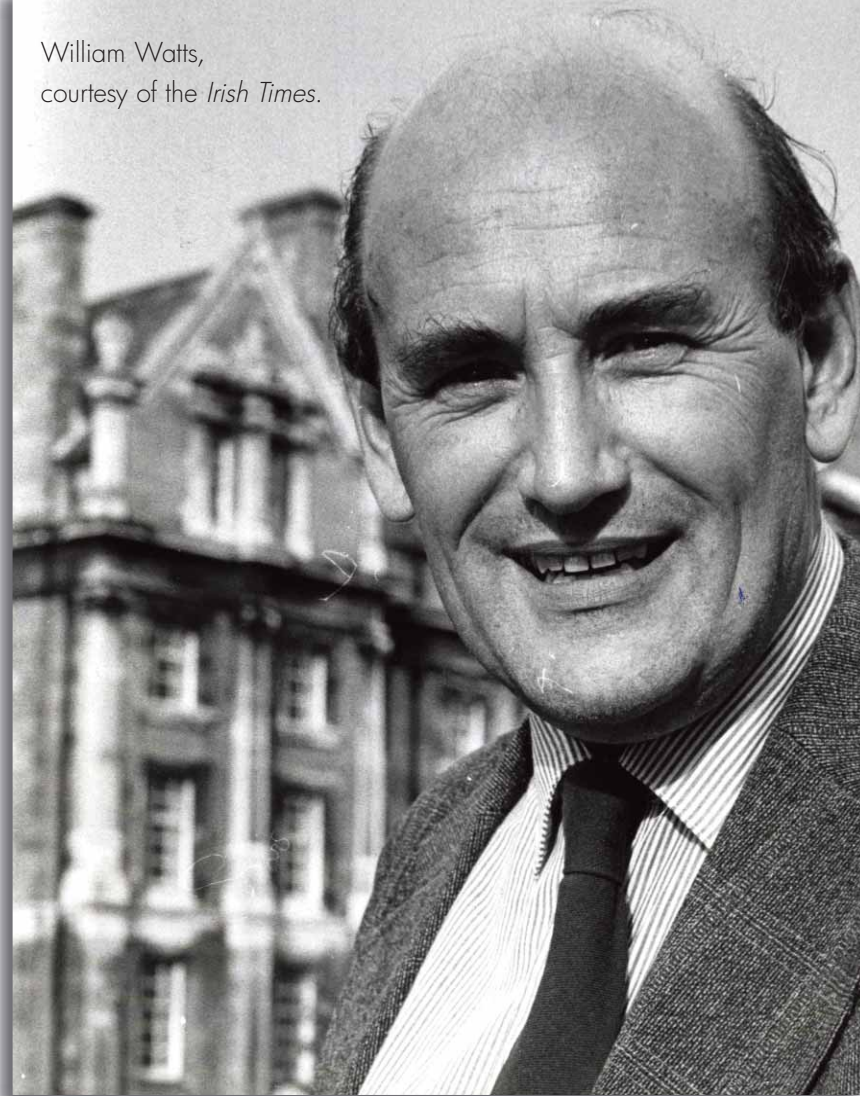
Christopher Thomas Whelan was elected Chair of the European Consortium of Sociological Research on 1 January 2010.

Harry White was awarded the Michael J. Durkan Prize of the American Conference for Irish Studies for his monograph, *Music and the Irish literary imagination* (Oxford, 2008) in June 2009.

D I S T I N C T I O N S C O N F E R R E D O N M E M B E R S

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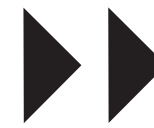
William Watts,
courtesy of the *Irish Times*.



William (Bill) Watts was born on 26 May 1930 at Upper Mayor St, East Wall, Dublin, to a family whose forebears had come from Scotland, Northern Ireland and Lancashire to live and work in Counties Down and Cork. Immediately after his birth the family moved to Athy, Co. Kildare. Bill attended the Model School, winning scholarships to St Andrew's College, Clyde Road in 1941 and to Trinity College Dublin with a Sizarship in 1948, where he read French and German and subsequently Natural Science. A Foundation Scholar in 1950, he graduated with two First-Class Moderatorships in 1952 and 1953, thanks to his two most important mentors, David Webb, Professor of Botany, and Frank Mitchell, Professor of Quaternary Palaeoecology. After two years as a lecturer in Hull, Bill Watts returned to take up a lectureship in botany at Trinity, was elected a Fellow in 1960 and a Member of the Royal Irish Academy in 1964, and succeeded to the Chair of Botany the following year. In 1980 he was appointed to the Chair of Quaternary Ecology.

William Watts (1930–2010)

>> EDA SAGARRA CELEBRATES THE LIFE OF WILLIAM ARTHUR WATTS, PRIA (1982–5)

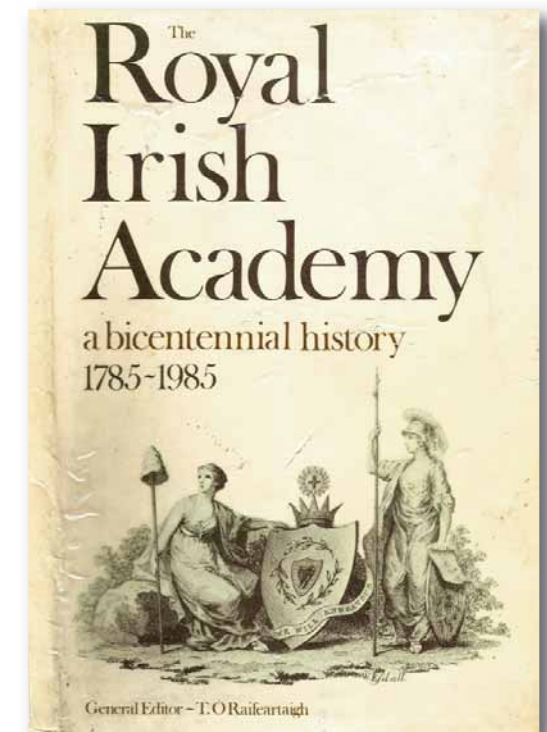


Much of Watts's research was done with colleagues in the United States, where he was an influential mentor of many who subsequently became leaders in their fields. His main area of expertise was in palynology, with particular focus on the Irish landscape, the frontier zones between temperate and tropical climates in the USA, and southern Italy (Lake Monticchio). This involved arduous expeditions to extract cores from peat bogs or deep lake mud, followed by long hours at the microscope identifying and analysing pollen grains and other fossil plant remains. What emerged was climate history on a grand scale.

A substantial body of Bill Watts's publications appeared during the decade 1981–91, when he combined two of the most significant offices in Irish intellectual and academic life: provostship of Trinity College Dublin and presidency of the Royal Irish Academy. Before his election as Provost in 1981 he had served as Senior Lecturer (Chief Academic Officer, 1970–4), when he played a major role in setting up and acting as the first Chair of the Central Applications Office. Student numbers increased by a factor of 250% during his provostship, which saw Trinity evolve into a major international research university, supported by a substantial building programme. Having been Science Secretary from 1980 to 1982, Watts's tenure as President of the Royal Irish Academy was marked by the prestigious celebration of the Academy's bicentenary and the publication, under his editorship, of *The Royal Irish Academy: a bicentennial history (1785–1985)* (1985).

'I enjoyed being a chairman and guiding debate to clear decisions', he wrote in his memoir. His skills were employed in a wide range of areas. He served as secretary and chairman of An Taisce, where he collaborated with the Office of Public Works to help set up the national parks at Killarney, the Burren, Glenveagh and Ballycroy (Co. Mayo). He was founding chairman of the Federated Dublin Hospitals and of the Dublin Dental Hospital. He served as Governor of the National Gallery and of Marsh's Library, Chairman of Fota Trust and a board member of the Dublin Institute for Advanced Studies and the National Board for Science and Technology.

Bill Watts was the first Trinity Provost in 400 years to record his memoirs. With its noteworthy introduction by his colleague and friend, Aidan Clarke, *Provost Trinity College Dublin: A memoir* (2008) provides a characteristically clear-headed account of his life and career. A *Festschrift* in celebration of his 70th birthday in 2000 listed his most important publications (1957–2000) in the fields of quaternary science and nature conservation and attracted contributions from his research collaborators and students across the world, notably in Britain, the USA, Sweden, Denmark, Greenland, Norway and Ireland. Attended by over 70 delegates and reporting on work as far afield as Ethiopia, the Faroe Islands, Italy, Mexico, Patagonia and the USA (all areas which owed a debt to Bill's pioneering research), the conference papers appeared as volume 101B of *Biology and Environment, Proceedings of the Royal Irish Academy Section B*, under the title: 'From palaeoecology to conservation: an interdisciplinary vision', Fraser J.G. Mitchell (ed.). Bill Watts died suddenly on 26 April 2010.





Sheila Tinney, the last surviving of the first four women Members of the Academy, photograph courtesy of the *Irish Times*.

Sheila Tinney, who has died aged 92, was a pioneering academic in the field of Mathematical Physics. She was born in Galway in 1918, the fourth of six children.

Her father, Michael Power, was Professor of Mathematics at UCG. Her mother, Christina (née Cunniffe), died in childbirth when Sheila was 12. One of Sheila's fondest memories was of her mother playing the piano at home, and she became an accomplished pianist herself, in turn inspiring her own children to learn to play.

She was educated by the Dominican nuns at Taylor's Hill and Cabra. In an era when 'arithmetic-girls only' was a subject for the Intermediate Certificate—only eight girls (126 boys) got honours in Mathematics in the Leaving Certificate in 1935—it was a trailblazing step to opt for Mathematical Science at university. But she did, and was awarded a BA in 1938 at UCD, with first-class honours and first place.

Sheila Tinney (1918–2010)

>> A PIONEER IN THE FIELD OF MATHEMATICAL PHYSICS

In 1939 she gained the MA Degree, also with first-class honours, and went straight to the University of Edinburgh on an NUI travelling studentship prize.

There, she carried out research under the direction of Nobel laureate Max Born. She was awarded a PhD in 1941 for her work on the stability of crystals.

She was appointed to the staff of University College Dublin as an assistant lecturer in 1941, at the age of 23, and became a statutory lecturer in 1945. In her early years

on the staff, she was also an honorary scholar at the Dublin Institute for Advanced Studies.

She was granted a Fellowship to the Institute for Advanced Study at Princeton in 1948 and given leave of absence from UCD to spend the year there. Einstein was still a professor, and Oppenheimer was director. Freeman Dyson was among her fellow researchers, and she also came into contact with other prominent physicists such as Richard Feynman.

She published papers—some alone, others with the collaboration or advice of such great figures as Schrödinger, Yukawa (both Nobel laureates) and Heitler—on a wide range of topics including crystal lattices, wave mechanics, quantum electrodynamics, cosmic radiation and meson theory.

She was one of the first four women elected to membership of the Royal Irish Academy in 1949. The Academy had sought legal advice in 1931 about admitting female members and had been advised that there was no bar to this. However, none were admitted before these four—the others being Phyllis Clinch, botanist; Eleanor Knott, Irish scholar; and Françoise Henry, art historian and archaeologist. Sheila Tinney served on the Academy Council in 1975–6.

If the distinguished A.W. Conway, who had contributed significantly to the understanding of atomic spectrums, represented the 'old' quantum theory at UCD, Sheila introduced the 'new' quantum mechanics to her students.

Schrödinger described her as 'among the best equipped and most successful of the younger generation of

theoretical physicists in this country'. She taught many brilliant students, perhaps the most outstanding of whom was Lochlainn Ó Raifeartaigh, who became renowned for his work in particle theory. When she first joined the staff at UCD there was a very substantial teaching load.

Many Departments had just, as the saying went, 'a man and a boy'—a professor and an assistant lecturer. As well as carrying out her research, and teaching honours-degree students in mathematical science, she also taught the first-

year engineering students for many years. This was a very large class, famed for its high spirits.

Esteem for her did not impede their exploits, some of which are still retold. There was the day when she swept, heavily pregnant, into the lecture theatre to find a small bottle of whiskey—a baby Power—placed on her desk.

On another occasion, a problem that she was solving at the blackboard was not working out, and she thought that the diagram was at fault. About to erase it, she paused with duster in hand, and said

'No...no...my figure is quite all right,' at which a huge roar of agreement shook the room.

She was appointed associate professor of mathematical physics (quantum theory) in 1966. While UCD had a number of women professors, this did not mean the passage of female academics was easy, and she gained a reputation for helping younger female colleagues who were trying to develop their careers.

One professor emeritus recalls the sympathy she received when, early in her career, she was passed over for promotion for a second time in favour of a younger, and demonstrably less academically qualified, male colleague. 'Keep that big smile on your face,' counselled Tinney, 'put your head down and write another book'. This mixture of sincere sympathy and sound advice provided the spur that set her on the road to a professorship.

Tinney regarded exercise as intrinsic to life. She enjoyed the sociability of hill-walking, and more strenuous sports such as skiing and horse-riding, and pursued them all wher-

“Schrödinger described her as 'among the best equipped and most successful of the younger generation of theoretical physicists in this country'”



ever she happened to be. From all this, the only injury she regarded as significant was a concussion sustained when thrown by a horse which reared after disturbing a rattlesnake in the countryside near Princeton.

She had a deep love of music and of literature, both of which she shared with her husband Seán—one of those former engineering students—whom she married in 1952. They had three children, and at that stage she replaced skiing and riding with tennis and golf.

In 1978, she decided to pass on the baton and retire at 60, following 37 years of teaching. An active and varied retirement was blighted by the onset of Alzheimer's, which was

diagnosed in 1994. This forced her gradual withdrawal into the privacy of family life, and eventually to the Molyneux Home, where she spent the last nine years of her life. She died peacefully there. She was predeceased by her husband Seán in 2003.

Any account of Sheila Tinney's life would be incomplete if it did not say that she was an exceptionally beautiful and charming woman. She is survived by her three children, Deirdre, Ethna and Hugh, and by her grandchildren.

Sheila Tinney: born 15 January 1918; died 27 March 2010

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Bereavements

THE DEATHS OF THE FOLLOWING MEMBERS IN THE PERIOD MARCH 2009 TO JULY 2010 ARE RECORDED WITH REGRET

Bradley, Daniel Joseph. DSc(hc UU), DSc(hc QUB). FRS. Emeritus Professor, Department of Pure and Applied Physics, TCD. Elected 1970. Died 7 February 2010.

Dahrendorf, Lord Ralf. Politician. House of Lords, Westminster, London. Elected Honorary Member in the Section of PL&A 1974. Died 17 June 2009.

Evans, John David Gemmill. BA, MA, PhD(Cantab). Professor of Logic and Metaphysics, QUB. Elected 1983. Died 27 September 2009.

Ó Buachalla, Breandán. BA, MA, PhD(NUI). Professor of Modern Irish Language and Literature, University of Notre Dame. Elected 1979. Died 20 May 2010.

O'Rourke, Fergus J. MB, MSc, PhD. Emeritus Professor of Zoology, UCC. Elected 1956. Died 7 May 2010.

Tinney, Sheila C. MA(NUI), PhD(Edin). Emeritus Professor of Mathematical Physics, UCD. Elected 1949. Died 27 March 2010.

Watts, William Arthur. MA, ScD, Hon LLD(QUB), Hon DSc(NUI) DSc(Dubl). FTCD. Provost and Professor of Botany, TCD. Elected 1964, PRIA 1982–5. Died 26 April 2010.

- Humanities Committees**
 - ▶ Archaeology
 - ▶ Classical and Near Eastern Studies
 - ▶ Historical Sciences
 - ▶ Léann na Gaeilge
 - ▶ Literatures in English
 - ▶ Modern Languages, Literary and Cultural Studies
 - ▶ Philosophy and Ethics
 - ▶ Social Sciences
 - ▶ Studies in International Affairs
- Science Committees**
 - ▶ Astronomy and Space Sciences
 - ▶ Chemical and Physical Sciences
 - ▶ Climate Change Sciences
 - ▶ Engineering Sciences
 - ▶ Geographical Sciences
 - ▶ Geosciences
 - ▶ Life Sciences
 - ▶ Mathematical Sciences

The re-appointment of the Academy Committees was undertaken in 2009 using a new uniform structure. The newly-formed Committees got straight down to agreeing on proposals and developing their programmes of work.

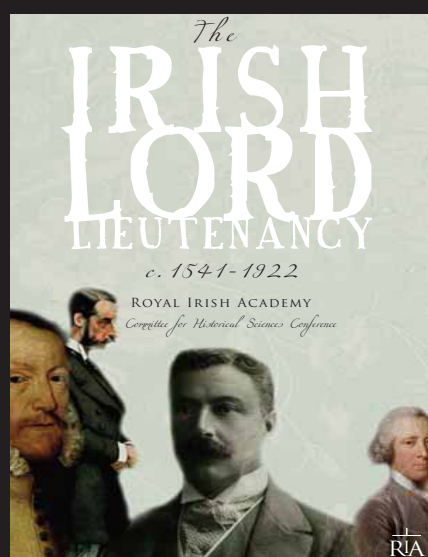
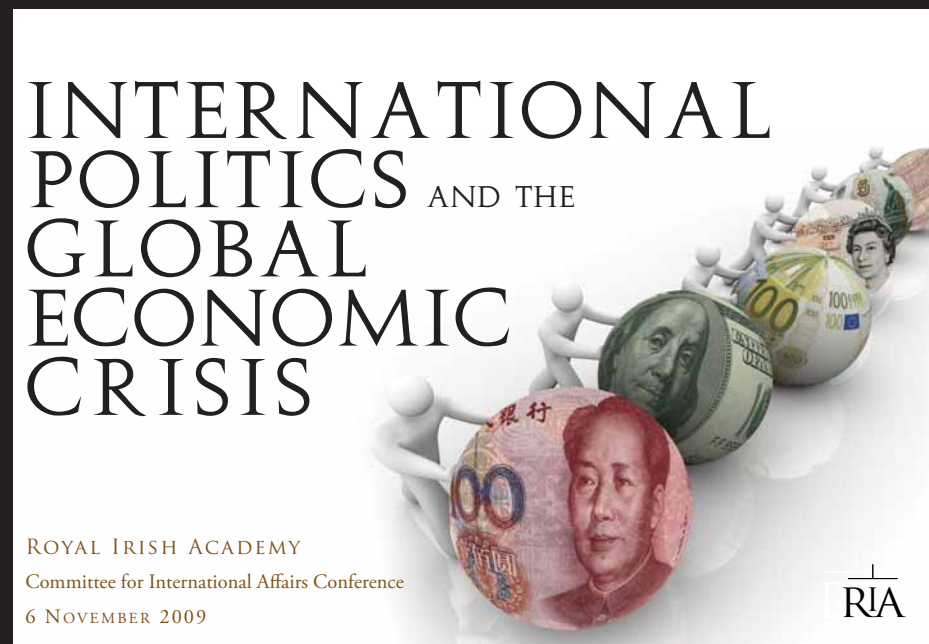
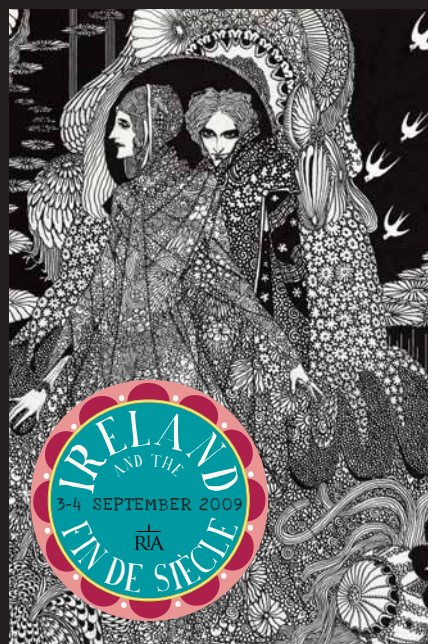
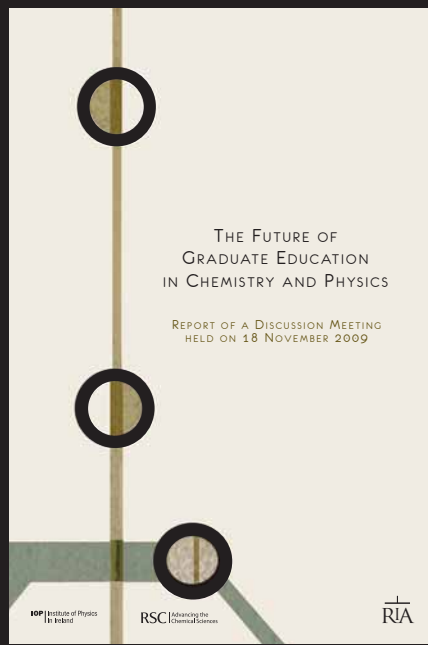
‘Encouraged to contribute to areas of strategic importance, address issues of public concern, foster excellence and sustain international linkages, Committee membership is drawn from the entire island of Ireland. Cross-disciplinary collaboration is also an important element of Committee work. To this end, the Boards for Sciences and Humanities and Social Sciences, bringing together the Council of the Academy and the Committee Chairs, met to promote information exchange and the cross-fertilisation of ideas and to discuss areas of potential collaboration.

The Committees managed an active programme of work despite being at an early stage in their terms of office. Some key events that took place throughout the year are outlined below.

Sue Scott and the **Climate Change Sciences Committee** produced the 8th Scientific Statement on ‘Market-based policies for reducing carbon dioxide emissions’. The **Geosciences Committee**, in collaboration with the Geological Surveys of Ireland and Northern Ireland and with sponsorship from Shell E&P Ireland Ltd and the ESB, ran a decidedly successful international conference in March 2010 in Dublin Castle, on ‘Carbon Capture and Storage: Bridging the Transition from Fossil Fuels to

Academy Committees

>> REBECCA GAGEBY DESCRIBES THE WORK OF THE ACADEMY COMMITTEES, 2009-10



▶▶ Renewables'. This saw the beginning of a public debate on carbon capture processes, transport and storage potential in Ireland.

The Life Sciences lecture given on 1 December 2009 in Academy House, 'Bench-to-Bedside Research—a Two-Way Street', by Jochen Prehn, was a great success. Preparations are now underway for the Life Sciences Scientific Statements series.

On Wednesday, 16 September 2009 the Academy **Committee for Astronomy and Space Sciences** hosted the opening event of the '9th European Symposium for the Protection of the Night Sky', which was held in Armagh over the three days that followed. Minister for the Environment Heritage and Local Government John Gormley, TD, launched the event, which was followed by an entertaining public lecture by Leo Enright, entitled 'What is Light?'

Professor Michael Rowan-Robinson, Imperial College London gave the biennial McCrea Lecture, entitled 'The Cosmology of Distant and Dusty Galaxies', on 2 November in Academy House and also in the University of Ulster on the following evening.

On 3-4 September the **Literatures in English Committee** hosted a well-attended conference on 'Ireland and the Fin de Siècle', opened by Éibhear Walshe with a paper on 'Macliammóir: the Last Wildean Decadent'. Meanwhile, Nicola Gordon Bowe gave the keynote lecture on 'Myths, Dreams or Unearthed Truths? Symbolist Imagery in the Arts of Fin de Siècle Ireland'.

The annual Hamilton Day Prizes and Lecture, organised by the **Mathematical Sciences Committee** and generously sponsored by Invest Northern Ireland, was held on Friday, 16 October 2009. Nine prizes were awarded to the best undergraduate mathematics students in their penultimate year of study in each of the nine universities (North and South) during an afternoon ceremony in Academy House.

Later that evening, the 2009 Hamilton Day Lecture, 'Noncommutative Algebra: From Hamilton to Our Time', was given by Professor Efim Zelmanov from the University of California, San Diego.

The **Chemical and Physical Sciences Committee** held a full-day workshop on 'The Future of Graduate Education in Chemistry and Physics' on 18 November 2009. This focused on the particular requirements of chemistry and physics PhD education and was attended by academic staff from all the higher-educational institutions responsible for delivering PhD education. A report of the same name is available on the Academy website.

The **Committee for the Study of International Affairs** held a conference on 5 November on 'International Politics and the Global Economic Crisis'. The conference was opened by Minister for Foreign Affairs Micheál Martin, TD. Following the conference, the 30th anniversary edition of the Academy's journal *Irish Studies in International Affairs* was formally launched by Mr David Donoghue, Department of Foreign Affairs Political Director, at a special reception in Iveagh House.

On 27 November the **Social Sciences Committee** organised a seminar entitled 'Public Intellectuals in Times of Crisis: What do they have to Offer?' This event sought to explore what is the role and function of the ostensible 'public intellectual' in contemporary society, particularly during times of crisis or turmoil.

Under its annual Excavation Grants Programme, the **Archaeology Committee** awarded €144,000 in grants. This scheme, financed by the Department of the Environment, Heritage and Local Government and the only one of its kind in Ireland, is aimed at funding and promoting archaeological excavation and post-excavation work in Ireland. Projects funded under the 2009-10 scheme include excavations at Bective Abbey, Co. Meath, by Dr Geraldine Stout; Kiltashean, Co. Sligo, by Mr Chris Read; and at Rosnaree, Co. Meath, by Dr Conor Brady. The Committee also announced the results of its Research Grants Scheme and C14 Dates Scheme.

On Thursday, 10 September the **Historical Sciences Committee** organised a two-day conference on 'The Irish Lord Lieutenancy c. 1541-1922'.

In December 2009 the **Praeger Committee** decided to revive the Praeger Grants Scheme, which is aimed at supporting amateur natural historians in doing fieldwork in Ireland. Two grants were awarded under the scheme this year, one to Mr Chris Huxley for the project: 'Distribution and status of the crucifix ground beetle *Panagaeus "crux-major"* around Lough Carra, Co. Mayo', and the other to Ms Kristi Leyden for the project: 'A survey of spiders on Sherkin Island'.

The **Classical and Near Eastern Religions Committee** held a colloquium on 19-20 November on 'Travels and Encounters: Journeys to the Known and Unknown in Greco-Roman Antiquity'. Robin Lane Fox from the University of Oxford gave the keynote address on 'Travelling Heroes in the Age of Homer'.

The **Modern Language, Literary and Cultural Studies Committee** ran a conference on 'Cultural Exchange' on 13-14 November and is working towards its next conference on 'Language, Diaspora and Migration'.

With programmes of work in place the Academy looks forward to future Committee programmes, projects and events.



Competitive measures

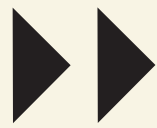
>> CAOIMHE GRAHAM REMEMBERS CRAIG BARRETT'S LECTURE ON 'COMPETITIVENESS'

‘If you think you are unique in Ireland, you’re crazy’ said Dr Craig Barrett, former chairman and CEO of Intel. Dr Barrett’s speech at the Farmleigh summit in Dublin in 2009 was described by some as a ‘reality call’ for Ireland’s education system. Barrett’s simple message was that Ireland’s performance is only average in education, especially in the subject of maths, and that this does not allow for the development of a competitive economy.

Following his contribution at Farmleigh, the Academy invited Barrett to present a public lecture on the subject of ‘Competitiveness’. Organised in conjunction with Dublin City Council and the *Irish Times*, the lecture took place in the Mansion House on 8 February 2010.

In his address, Barrett championed the case for a competitive Ireland that encourages ‘smart people with smart ideas in the right environment’. He focused on three areas that he felt could leverage Ireland back into a more sustainable, competitive economic position: education; research and development; and entrepreneurial culture. ‘If you look at your investment in research and development, okay, it’s grown a bit, but it’s still very average by most measures. And things in the environment that allowed you to be so successful—the low corporate tax rate, the IDA—all of those things have been copied by many other people, so what exactly do you have that is unique?’

While Barrett warned that ‘inevitably, you face a decade of very challenging environment’, he outlined the importance of Ireland’s response to economic challenges, saying: ‘You need to grow your



economy from within'. The only way Ireland can achieve a Smart Economy and compete is through new industries, creating jobs in which intelligence, training and skills are important: smart people utilising smart ideas in the right environment.

Barrett discussed how Ireland is rich and focused in its cultural life and in the liberal arts, but ranks only average in science and maths subjects: 'Investment in education, especially in maths and science, is critical'. At primary and secondary level, it is important to teach problem-solving skills and also to address such shortcomings as the 35% of maths teachers that do not have mathematical training.

He noted that by setting high expectations in the areas of science, maths and technology and by connecting universities with industries, the education system in Ireland can add value to the economy. Increasing investment in research and development is imperative for achieving this. In order for investment in research to have an impact, Ireland must increase the gross domestic product (GDP) by 3%, which would reflect commitments made over 10 years ago. Microsoft, for example, spends \$8 billion per annum on research and development. That is more than Ireland's total annual investment in this area, which is currently less than 2% of GDP. At a basic level, research can be linked to industry when facilitated by governments and universities.

Currently, Ireland has 'two universities in the top 100 worldwide', but neither of these is on a level with Stanford University or Massachusetts Institute of Technology (MIT). According to Barrett, Stanford University and MIT are examples of how academic excellence does not have to be sacrificed to a more commercial approach. While it is difficult to compete with Stanford or MIT as centres of excellence in the short term, it is critical for long-term competitiveness to invest in education now, particularly in the areas of science and maths.

Creating a business environment that encourages start-up entrepreneurial ventures is also critical. It is hoped that amending bankruptcy laws would build and drive an internal economic system, and therefore begin to shape and create this entrepreneurial culture within Ireland. According to Barrett foreign direct investment created prosperity in the past, but this is not the future of Ireland's competitive economy; rather, the future is in indigenous industry.

Considering the large Irish diaspora of professionals in the UK, the USA and elsewhere, Barrett warned that the country should not depend on vicarious investment abroad: 'your diaspora might give you a little bit of advantage. It is a resource and I'm all for using that resource, but only if you have something that people want in that market'.

Barrett concluded his talk with the suggestion that Ireland needs to be tougher and to think in the long term. There is no short-term fix for competitive economic growth. In order to be a competitor, Ireland needs to improve within the subject areas of maths and science and to increase investment in research and development. The advice to industry then is to focus on sectors that are recognised areas of growth such as science and technology.

“ There is no short-term fix for competitive economic growth. In order to be a competitor, Ireland needs to improve within the subject areas of maths and science and to increase investment in research and development.”

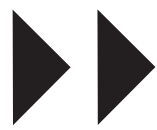
Look to the past to help create the future. Look to science and to poetry. Combine innovation and interpretation. We need the best of both. And it is universities that best provide them.' These were the concluding words of President of Harvard University Professor Drew Gilpin Faust's compelling Academy discourse, entitled 'The Future Role of the University in a Changing World', delivered to a capacity audience of over 400 in Trinity College on 30 June 2010.

In his opening remarks at the event, Professor Nicholas Canny, PRIA, outlined how Professor Faust's appointment as President of Harvard University in July 2007 was doubly significant, in that she became both the first non-Harvard graduate and the first woman to hold the prestigious position. However, it has been Faust's academic and professional accomplishments, in addition to her clarity of vision during her tenure, that have distinguished her career. President Canny stressed that it was on account of these achievements that the decision was made to award honorary membership of the Academy to Faust.

The central theme of Faust's discourse was the equal importance of the innovative and interpreta-

'The Future Role of the University in a Changing World'

>> NIAL MATTHEWS DISCUSSES A LECTURE BY PROFESSOR DREW FAUST, PRESIDENT OF HARVARD UNIVERSITY



...tive roles of the university in today's rapidly changing world. For Faust, universities excel in taking 'the long view: inquiry that enables the critical stance, that builds the humane perspective,

fosters the restless scepticism and unbounded curiosity from which our profoundest understandings so often emerge'. She stressed that this 'long view' is a vital element of learning in the sciences and humanities alike, and that 'an overly instrumental model of the university misses the genius of its capacity. It devalues the zone of patience and contemplation the university creates in a world all but overwhelmed by stimulation. It diminishes its role as an asker of fundamental questions in a world hurrying to fix its most urgent problems. We need both'.

While celebrating the ever-expanding global reach of higher education—from the Middle-East to India to China—Faust warned of the rising pressures threatening to undercut that trend: 'we are caught in the paradox of celebrating the global knowledge economy and simultaneously undermining its very foundations'. She emphasised how universities are being asked to be at the forefront of the 'knowledge economy' while suffering from severe funding cutbacks as a result of the global economic crisis. Faust also highlighted how the crisis has seriously impacted on the mobility of international students and researchers 'at a moment when higher education more than ever requires the free flow of talent and ideas'.

Faust asserted that in these challenging times, our understanding of the role of the university should not be distorted by this increasing focus on higher education as the engine of economic growth. She further noted that, particularly within the domain of science, 'universities have a distinctive obligation to nurture and fulfil the deep human desire to understand ourselves and the world we inherit and inhabit'. She warned, therefore, of government funding which favours risk-free scientific research over 'less predictable, more ambitious and possibly paradigm-shifting endeavours'.

Faust also strongly defended the ongoing importance of the humanities to both universities and society: 'At the heart of the liberal arts and fundamental to the humanities—and indeed central to much of scientific thought—is the capacity for interpretation, for making meaning and making sense out of the world around us'. She indicated that in this digital age, universities should be increasingly focused on helping students make the critical distinction between mere information and valuable knowledge.



“the role of the university should not be distorted by this increasing focus on higher education as the engine of economic growth”

She noted that as many other institutions in today's world appear to be failing in their remit, universities 'nurture the hopes of the world: in solving challenges that cross borders; in unlocking and harnessing new knowledge; in building cultural and political understanding, and modelling environments that promote dialogue and debate'.

Discourse respondent, Trinity College Provost John Hegarty, concurred with Faust's emphasis on the compatibility and common goals of the sciences and humanities, while also underlining the need for continued investment in higher education in Ireland.

The discourse attracted widespread media coverage, with Professor Faust appearing on the Pat Kenny Show on RTÉ Radio, as well as being quoted in several pieces in the *Irish Times*. Professor Faust also had a meeting with An Taoiseach Brian Cowen, TD, during which they discussed the potential offered by Ireland's strengths in the humanities, social sciences and creative disciplines, and how this can be harnessed to stimulate economic recovery and address complex social and policy problems.

The discourse was co-sponsored by the Irish Research Council for the Humanities and Social Sciences.



IRCHSS

A year in View



Professor Efim Zelmanov presents the Hamilton Lecture 2009.



Left to right: Emile Elewaut (TNO Netherlands), Richard Vernon (SLR Consulting), Nicholas Canny (PRIA), John Barry (Shell), Peadar McArdle (GSI) at the 'Carbon Capture and Storage' conference in Dublin Castle.

Left: Hamilton Prize 2009 winners: 1) Back row L-R: Ruairi Hourihane (UCC), Jennifer Tweed (DCU) and Kevin Burke (UI) Middle row L-R: Gavin Armstrong (NUIM), Christopher Blair (TCD), James Herterich (UCD), Meredith Grieve (QUB). Front row: Li Xiaoyue (UU), Jenny Young (Invest NI), Nicholas Canny (PRIA), Efim Zelmanov (UCSD), Thomas Gilroy (NUIG). Right: Professor Richard English (QUB) on one of the discussion panels of the Celebrating Thinking series.



Left to right: Professor David Fegan (Academy Senior Vice-President), Minister for Foreign Affairs Micheál Martin, TD, Dr Noel Dorr (Chair, Academy Committee for International Affairs) at the opening of the 2009 International Affairs conference.



Mr Liam Cosgrave, former taoiseach (left) and Mr Seán Cromien (MRIA) at the launch of Tom Garvin's *Judging Lemass*.



Ryan Tubridy and Peter Mooney (RTÉ) at the launch of *Conspiracy: Irish political trials* (2009), by Myles Dungan (right).



An Taoiseach Brian Cowen, TD, with editors James Quinn (left) and James McGuire (right) at the launch of the *Dictionary of Irish Biography*.



Professor Drew Gilpin Faust (HonMRIA, President of Harvard), before her address to the Academy on 'The Future Role of the University'.

THE POLITICAL ANDECONOMIC ASPECTS OFNATURAL HAZARDS



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21 March 2010. Featuring Karin Lillington, Kieran Donohue, Emily O'Reilly, Marie Murray and Caroline Fennell.

ARE SMALL NATIONS SMALL-MINDED?
30 March 2010. Featuring Jake O'Sullivan, Tom Arnold, Richard English, Doreen Ní Fhrainn and Donnacha.

RTÉ

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MAPPING LIMERICK'S URBAN HISTORY

IRISH HISTORIC TOWNS ATLAS

RIA

A LOYS FLEISCHMANN

and the Development of Musicology in Ireland

PROFESSOR HARRY WHITE, MRIA

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RESEARCH PROJECTS

Art and Architecture of Ireland (AAI)

Minister for Tourism, Culture and Sport Mary Hanafin, TD, opened the meeting of the Art and Architecture of Ireland Main Board on 12 May 2010. The Main Board comprises representatives from all the major Irish cultural institutions and will meet annually during the life of the project to review progress.

Art and Architecture of Ireland is a major, innovative scholarly project of national and international importance. No work of this scale—a comprehensive, fully illustrated account of Irish art and architecture from the earliest times to 2000—has ever been attempted before.

The work of research and writing for the project is well underway. More than 20 scholars are currently engaged in the project, over 200 expert contributors have agreed to write specialised entries, and over 60,000 words are already completed and have gone to the copyeditors. Illustrations are being sourced and copyright permissions obtained.

The editors of the five volumes come from TCD, UCD, the Irish Museum of Modern Art (IMMA), the Crawford Art Gallery, Cork, and the University of Pittsburgh, USA. The General Editor, Andrew Carpenter, is Professor Emeritus of English at UCD and a Member of the Academy.

There is an Advisory Board for each volume, made up of national and international experts in all aspects of the art and architecture of Ireland. These experts come from all major universities throughout Ireland and Britain; from the National College of Art and Design (NCAD), from the National Museum, the National Gallery and many other institutions and organisations associated with the art and architecture of Ireland.

Each volume will contain around 600 pages, and will be published as follows: I *Medieval Art and Architecture*, edited by Rachel Moss, TCD; II *Painters and Painting 1600–1900*, edited by Nicola Figgis, UCD; III *Sculptors and Sculpture 1600–2000*, edited by Paula Murphy, UCD; IV *Architects and Architecture 1600–2000*, edited by Rolf Loeber, University of Pittsburgh and Hugh Campbell, UCD; V *Twentieth-Century Art and Artists*, edited by Peter Murray, Crawford Art Gallery, Cork and Catherine Marshall, IMMA. Yale University Press (with the support of the Paul Mellon Centre in London) is to publish the five volumes in 2014 and the electronic version will be published shortly thereafter.

The RIA is proud to be managing this project, which is being financially supported by the Naughton Trust as well as by the Department of Tourism, Culture and Sport.

► Ms Anita Griffin, Project Manager of Art and Architecture of Ireland



Professor Andrew Carpenter (MRIA), Mary Hanafin (Minister for Tourism, Culture and Sport), Professor Jim Slévin (MRIA) and Ms Anita Griffin (AAI).



Left to right: Professor Ronan Fanning (MRIA), Dr James Quinn (Joint Editor), Dr Art Cosgrove (MRIA), Professor Nicholas Canny (PRIA), and Dr Linde Lunney (Editorial Secretary) at the presentation of the *Dictionary of Irish Biography* to Mrs Mary McAleese, President of Ireland (centre), at Áras an Uachtaráin on 25 May 2010.

Dictionary of Irish Biography (DIB)

When An Taoiseach Brian Cowen, TD, launched the RIA's *Dictionary of Irish Biography* (9 volumes and online, Cambridge University Press), edited by James McGuire and James Quinn, at a reception in Dublin Castle on 18 November 2009, he described it as a milestone in the history of scholarship in Ireland. The *DIB* covers in 9,014 biographical articles over 9,700 lives from the earliest recorded history to 2002. The range of occupations and careers covered can be seen in 44 search categories on the *DIB Online* (<http://dib.cambridge.org>).

Subsequent launches by distinguished speakers in London (Ambassador Bobby McDonagh), Belfast (Seamus Heaney, MRIA), New York (Professor J.J. Lee, MRIA), Boston (Professor Thomas Bartlett, MRIA) and Toronto (Professor Ann Saddlemyer, Order of Canada) promoted the *DIB* internationally and provided the editors with an opportunity to meet and thank some of the many contributors and editorial advisors whose work made the *DIB* possible. The project and the Academy are indebted to the institutions that hosted and sponsored these launch receptions. On 25 May 2010 Professor Nicholas Canny, PRIA, presented a *DIB* set to President Mary McAleese at Áras an Uachtaráin.

Since the *DIB*'s publication, the project's mailbag has reflected the extent of public interest, much of it stimulated by media coverage, including two one-hour radio features, 'Talking History' on Newstalk 106–108 (6 December) and the Myles Dungan programme on RTÉ Radio 1 (30 December). Soon after publication, the *Irish Times* began a weekly Saturday series, 'Irish Lives', based on an eclectic mix of *DIB* subjects. On 14 May the Newspaper and Periodical History Forum of Ireland ran a seminar on 'Journalism and the *Dictionary of Irish Biography*', at which a series of short papers nicely illustrated how the *DIB* can be of use to media historians; among the speakers was Stephen Collins, the *Irish Times*'s Political Editor.

Members of the *Dictionary* project have spoken at several societies and seminars, including; Irish Legal History Society (James McGuire); Offaly Historical and Archaeological Society (Terry Clavin); UCD Micheál Ó Cléirigh Institute (James McGuire); Ulster Society for Irish Historical Studies (James McGuire), Coleraine Historical Society (Linde Lunney); Genealogical Society of Ireland (James McGuire); Meath Landscape and People Seminar, Trim (James McGuire); and Phizzfest, Phibsborough Arts Festival 2010 (James Quinn). On 26 February Lawrence White read a paper on the *DIB* to a major conference, 'From Reference Work to Information System', which was held in Munich under the auspices of *Neue Deutsche biographie* and the Bavarian State Library.

The project's principal activity is now the preparation of twice-yearly updates, covering those who have died since 2002 and new subjects from earlier periods. Already, 36 new entries for subjects who died in 2003 have been published on the *DIB Online*. These include; Bishop Donal Lamont, expelled from Rhodesia (Zimbabwe) by the Smith regime; Pauline Flanagan, actor; James Plunkett, playwright and novelist; T.F. (Tom) O'Higgins, lawyer and politician; Dick Walsh, journalist; and Mary Reid, political radical and poet.

In 2010 the *DIB* received the American Publishers Award for Professional and Scholarly Excellence (PROSE) for best multi-volume reference work in the humanities and social sciences.

► Professor James McGuire, Managing Editor of the *DIB*

Dictionary of Medieval Latin from Celtic Sources (DMLCS)

Early 2010 saw DMLCS reaching a key milestone in its development. This was the completion, on schedule, of the second, revised and much expanded online edition of the project's *Archive of Celtic-Latin literature*. It now contains, in their entirety, well over 500 Medieval Latin works written in the Celtic-speaking areas of Europe or by Celts abroad. The construction and maintenance of such a full text, searchable database has always been one of the principal objectives of DMLCS, since it forms the resource from which the Dictionary draws its examples. Now, the publication of the *Archive* online by our Belgian partners Brepols Publishers makes it available to subscribers worldwide from myriad other disciplines, whether they be editors of texts; linguists; investigators of the geographical or chronological spread of terminology for skills or artefacts; theologians; liturgists; historians interested in the transmission of ideas or texts; or researchers working in other areas entirely. Broadly speaking, the DMLCS academic constituency embraces scholars working throughout the fields of Patristic, Medieval, Celtic and Latin Studies, and it has long been clear, from enquiries reaching the project office, that such individuals are to be found across four continents.

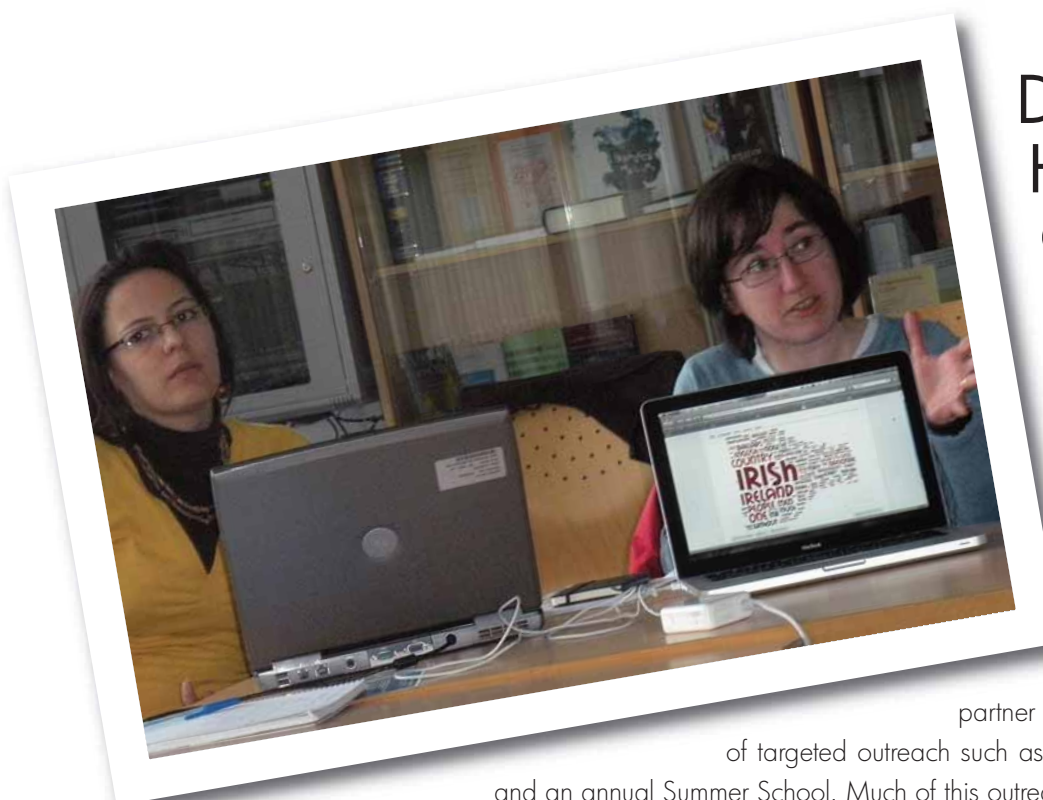
Significant increments to the *Archive* have been added in the past two years, each contributing hundreds of thousands of words of new continuous text while retaining all of the material from the revised first edition; but the latest release, ACLL-2.3, has seen by far the largest increase in size. Of over 60 important works included for the first time, probably the most interesting to medievalists generally will be an edition of the eighth-century *Collectio canonum Hibernensis* [Irish collection of Church Laws], which, at home and abroad, went on to be vastly influential to much subsequent writing in both the Latin language and the vernacular. With this and the other newly captured works now at its disposal, the DMLCS project has been reconfigured to prepare not merely the next volume (non-Classical vocabulary, letters I to Z) of the Dictionary, but also a supplement to cover those words beginning with A to H that are being encountered for the first time in these works, and which were therefore not included when the first volume was published. A digital enhancement to the two volumes taken together (A to Z), which will quote the wording of the original Latin sentences containing each item of the vocabulary concerned, has been contracted for with Brepols and is being prepared simultaneously with the book.

Other ongoing efforts integral to the DMLCS database and dictionary plan include the editing of some important, but hitherto unpublished, Medieval Latin texts; these appear in the project's *Scriptores Celtigenae* series, a joint venture with the Irish Biblical Association and Brepols. Further construction of the Web-based St Patrick's *Confessio* Hypertext Stack, funded under Cycle Four of the Programme for Research in Third-Level Institutions (PRTL-4), is also taking place. A multi-media event marking DMLCS's publication in several of these areas is planned for 2011. A detailed account of all the project's activities is kept up to date on its official website, kindly hosted by Queen's University Belfast at: <http://journals.eecs.qub.ac.uk/DMLCS> (note the absence of a "www" element in this address).

► Dr Anthony Harvey, Managing Editor of DMLCS



DMLCS staff, left to right: Dr Franz Fischer, St Patrick's *Confessio* hypertext stack researcher; Ms Jane Power, Dictionary Assistant; Dr Anthony Harvey, DMLCS Editor; Mr Alessio Frenda, postgraduate Stack intern (TCD); Mrs Angela Malthouse, Database Assistant.



Digital Humanities Observatory (DHO)

Now firmly established as a central hub for the development of digital humanities in Ireland, the DHO began its third year of operation in March 2010. The project has been successfully consolidating relationships with HSIS (Humanities Serving Irish Society)

partner institutions through the continued provision

of targeted outreach such as workshops, seminars, symposia, lectures

and an annual Summer School. Much of this outreach has taken place at partner institutions,

with 15 extremely successful events held since September 2009, including the 'Digital Resources in the Humanities

and Arts' conference (co-hosted at QUB, September 2009); the DHO workshop 'Seeing Data Differently: Emerging Tools for Scholarly Analysis and Presentation' (University of Ulster, February 2010); 'E-Publishing for Postgraduates' (UCD and NUI Galway; March and May 2010); 'Text Encoding with the TEI' (NUI Galway; April 2010); 'Using Digital Resources for Research and Teaching in Irish Studies' (NUI Galway; April 2010) and an international Symposium on TEI and Scholarly Publishing (Academy House, April 2010), held in conjunction with the Council of the Text Encoding Initiative Consortium.

The demand for consultations with DHO staff remains high, as many scholars who have attended DHO events seek follow-up advice. Increasingly also, Irish cultural heritage organisations request consultative meetings with the DHO. In January 2010 the IMC contracted with the DHO to provide the technical infrastructure for metadata collection and provision services in support of the IMC as Aggregator for *Europeana* on behalf of the Irish Cultural Heritage Sector.

The DHO's spring/summer 2010 events programme culminated in its third annual Summer School (28 June–3 July). The Summer School has grown from strength to strength, with over 70 attendees from 12 different countries. Running week-long workshops, one-day workshops and intensive one-on-one coffee and consultation sessions, the DHO Summer School offers new and innovative services for participants in a user-directed environment.

The DHO's IT offerings also continue to grow. In addition to the DHO portal: <http://dho.ie> (note that 'www' is not part of the Web address), launched in 2008, a database for digital humanities projects and methods called DRAPler: *Digital research and projects in Ireland* (see: dho.ie/drapier/) was launched at the opening reception of the 2009 Summer School. There are currently 53 projects published, representing all HSIS partner institutions. The DHO is expanding DRAPler to include the Irish cultural heritage sector as well as collections from overseas with substantial Irish content. IT development over the past year has focused on the creation of a repository to house digital content created by DHO partners. This latest IT resource, *DHO:Discovery*, will ensure that digital projects (thematic research collections) will not only have their own look and feel, but that content will also be discoverable across projects via a discovery interface. The first thematic research collection to be hosted in the DHO's repository, the *Doegen records Web project*, is a unique collection of the Academy's library of Irish language recordings from the early years of the Irish Free State. It was launched in October (see: <http://dho.ie/doegen/>) and received significant and positive press coverage.

► Dr Susan Schreibman, Director of DHO

Above left: Attendees at the Irish Digital Resources Workshop at the National University of Ireland, Galway.

Documents on Irish Foreign Policy (DIFP)

2009 saw Documents on Irish Foreign Policy in the thick of the Second World War as the project completed the research for *DIFP VII*. This volume runs from 1941 to 1945 and will be published in November 2010. After the crisis years of 1939–40, covered in *DIFP VI*, the risk of an invasion of Ireland decreased, but threats to neutrality never vanished. The four-and-a-half years covered in *DIFP VII* are perhaps the less well-known years of 'The Emergency', or Ireland during the Second World War. However, *DIFP VII* will open up a new perspective on Ireland's wartime neutrality and reveal many secret diplomatic undertakings.

Through 2009 Dr Kennedy and Dr O'Malley amassed many thousands of possible documents for inclusion in *DIFP VII*. These documents showed how flawed F.S.L. Lyons's description of wartime Ireland as being in 'Plato's cave' was, at least when it came to the diplomatic service. The Irish public may have been subject to strict censorship, but diplomatic traffic from continental Europe to Dublin shows that the Department of External Affairs was well aware of the horrors of modern warfare, as well as of the displacement of persons and the sheer destruction brought upon the European continent by the Second World War.

The Executive Editor and the editors eventually whittled the mass of available documents down to 625, including many telegrams from wartime Berlin, which will make *DIFP VII* a unique English language source on conditions in the German capital during the War.

As *DIFP VII* shows, no sooner had the threat of Nazism been extinguished, than another threat—Communism—replaced it. By early 1945 the Department of External Affairs began to show increasing concern at the Communist threat to post-War Europe. The fates of Poland, Germany, Italy and France all troubled the Department of External Affairs at Iveagh House, as did the future of Western Christian civilisation. At the same time, Ireland began one of its first foreign aid programmes by despatching food, clothing and medical supplies to Europe to assist in the rebuilding of the shattered continent.

While 2009 was dominated by the intensive research required for *DIFP VII*, DIFP maintained an active outreach programme, speaking at a wide variety of local, national and international conferences including the 10th International Conference of Editors of Diplomatic Documents at The Hague in October 2009. Dr Kennedy and Dr O'Malley also appeared regularly on radio and television.

DIFP has always embraced teaching at second and third level as part of the project's outreach. Dr Kennedy and Dr O'Malley taught a number of document-based seminars at UCD, UCG and UCC. Using the electronic versions of *DIFP I, II and III* available on the project website: www.difp.ie, they developed a Second World War diplomatic document simulation game based on material in *DIFP VI*, which was played out twice in 2009 with postgraduate students at UCD partaking. In a radical revision of history, the hypothetical outcome of the first outing of the simulation game saw Germany invade Ireland in December 1940, with America joining the global War to assist neutral Ireland, as British and Irish forces battled the Wehrmacht in Ireland's midlands. It was an unexpected outcome, but the exercise shows the wide applicability of DIFP as a teaching, learning and research source.

► Dr Michael Kennedy, Executive Editor of DIFP



Above right: Dr Michael Kennedy (right) with Dr David Herschler of the Foreign Relations of the United States series, at the 10th International Conference of Editors of Diplomatic Documents, Netherlands Foreign Ministry, The Hague, October 2009.



Above: An tOllamh Seán Ó Coileáin, An tOllamh Nicholas Canny (PRIA), An Dr Úna Uí Bheirn agus Mr Patrick Buckley (Academy Executive Secretary).

Below: An Dr Úna Uí Bheirn le foireann na Carraige – Nóra, Caroline, Máire, Niall agus Greg. In easnamh ón ngrianghraf tá an Dr Eithne Ní Ghallchobhair agus Cáit Mhac Fhionnlaíoch.



Foclóir na Nua-Ghaeilge (FNG)

Foilsíodh bunachair bhibleagrafaíochta de théacsanna tábhachtacha na Gaeilge don tréimhse 1600-2000 ar líne an bhliain seo caite. Ó shin, tá foireann FNG ag obair ar bhunachar tréimhseacháin ó na blianta 1882–2000 a thiomsú. Chuige seo, tá coiste de dhaoine acadúla agus iriseoirí curtha le chéile le comhairle a thabhairt dúinn. Faoi láthair tá 3462 iontrálacha ar an mbunachar seo.

Beidh teanga labhartha na Gaeilge san áireamh i Corpas na Gaeilge 1882–2000. Mar chuid den taighde ar an ngné seo den obair, fostaíodh tríúr saineolaithe ar chanúintí na Gaeilge le taifid atá tábhachtach ó thaobh na foclóireachta de a aithint in airciví RTÉ Raidió na Gaeltachta. Déanfar na taifid seo a thrascríobh amach anseo agus beidh siad san áireamh i *gCorpas na Gaeilge 1882–2000*.

Leantar le hionchar ábhair ón fichiú haois san fho-aonad ar an Charraig, i nDún na Gall. Tá an tionscnamh buíoch den Údarás um Ard Oideachais agus den Roinn Gnóthaí Pobail, Comhionannais agus Gaeltachta as an tacaíocht leanúnach don aonad seo, agus den Chrannchur Náisiúnta a mhaoiníonn Ciste na Gaeilge sa Roinn sin.

I ndiaidh blianta fada a chaitheamh ag obair go díograiseach ar son an tionscnaimh, chuaigh an tEagarthóir, an Dr Úna Uí Bheirn ar scor i mí Bealtaine. Ba mhaith leis an bhfoireann, leis an gCoiste Eagarthóireachta agus leis an gCoiste Bainistíochta gach rath a ghuí uirthi.

► Ms Déirdre D’Auria, Eagarthóir Cúnta; Assistant Editor FNG

► Ms Eilís Ní Mhearraí, Oifigeach Riaracháin/Cóipeagarthóir; Administrative Officer/Copyeditor FNG

Last year, bibliographical databases of significant Irish language texts pertaining to the period 1600–2000 were published online, at: www.fng.ie. The FNG staff have since been working on a similar database for periodicals dating from 1882–2000. A committee of academics and journalists has been established to advise us on this. Currently, there are 3,462 entries on this database.

The spoken word will be represented in *Corpas na Gaeilge 1882–2000*. As part of this endeavour, three experts on the dialects of Ireland have been engaged to identify lexically significant recordings in the archives of RTÉ Raidió na Gaeltachta. These recordings will be transcribed to text form later, and included in *Corpas na Gaeilge 1882–2000*.

Inputting of twentieth-century texts continues in the sub-unit of the project in An Charraig, Donegal. FNG is grateful to the Higher Education Authority and the Department of Community, Equality and Gaeltacht Affairs for their continuing support for this unit, and to the National Lottery, which funds Ciste na Gaeilge in that Department.

The Editor, Dr Úna Uí Bheirn, retired in May of this year, 2010, after many years of dedication and commitment to the project. The staff and the members of the Editorial and Management Committees wish her a long and happy retirement.

Irish Historic Towns Atlas (IHTA)

Irish Historic Towns Atlas, no. 21, *Limerick* by Eamon O'Flaherty, and no. 22, *Longford* by Sarah Gearty, Martin Morris and Fergus O'Ferrall, were published this year. *Limerick* was launched in February 2010 at No. 2 Pery Square, Limerick, an event hosted by Limerick City Council. In June 2010, the project celebrated the publication of *Longford* in Longford County Library, where the contributors were hosted by Longford Town Council and the County Longford Historical Society. The project also released the next in its series of pocket maps, *Dublin 1610 to 1756: the making of the early modern city* by Colm Lennon.

During the year, editorial work and mapping focused on forthcoming atlases: Sligo by Marie-Louise Legg and Fiona Gallagher; Carlingford by Harold O'Sullivan; Ennis by Brian Ó Dálaigh; and Youghal by Tadhg O'Keeffe and David Kelly. Also in preparation in the IHTA office are atlases for the cities of Galway by Jacinta Prunty and Paul Walsh, and *Dublin, Part III, 1756 to 1846* by Rob Goodbody. Considerable work was carried out over the summer months aided by research grants. Authors started and continued work on Cashel, Cavan, Cork, Kinsale, Loughrea, New Ross, Roscommon, Tullamore and Waterford. Ancillary publications progressed also, with a book of map extracts and commentaries by Colm Lennon and John Montague, entitled *John Rocque's Dublin: a guide to the Georgian city* (November 2010); a pocket map of Limerick by Eamon O'Flaherty and Jennifer Moore, *Limerick c. 840 to c. 1900: Viking Longphort to Victorian city* (November 2010); and a user's guide to the atlas by Jacinta Prunty, which will be published in collaboration with Blackrock Education Centre.

In May 2010 the project held its annual seminar entitled 'Maps and Texts: Exploring the Irish Historic Towns Atlas', with an attendance of over 70 participants. This was the second of three such seminars that aim to analyse the sample of 22 town and city atlases produced to date in the Irish scheme.

Highlights of this year's outreach activities included a spring lecture series in various Limerick venues entitled 'Mapping Limerick's Urban History'. Exhibitions included 'Our Monastic Towns in Maps and Texts' in the Royal Irish Academy during Heritage Week in August 2009 and the IHTA were also involved in the 'Mapping Urban Ireland' exhibition and lecture series that was launched in the Academy Library in July 2010.

In Europe, 464 atlases have been published and editors attended the annual meeting of the International Commission for the History of Towns in Luxembourg in September 2009. During the year, the project joined an FP7 application for funding, which developed plans for an online version of the IHTA in the broad and ambitious context of European activities in the area.

Collaborators and funders for the past year included: Ordnance Survey Ireland, Land and Property Services Northern Ireland, Department of the Environment, Heritage and Local Government, Dublin City Council, Galway County Council, Longford County Council, Longford Historical Society, Sligo County Council, The Heritage Council and Youghal (various private sources).

Howard Clarke continued as Chair of the Board of Editors, which also includes Anngret Simms, Raymond Gillespie and Jacinta Prunty. Jennifer Moore and Angela Murphy continued as editorial assistants in the atlas office, while Angela Byrne left the project in August 2010 to pursue postdoctoral studies.

► Ms Sarah Gearty, Cartographic and Managing Editor of IHTA



Dr Angela Byrne, Professor Howard Clarke, MRIA, Ms Jennifer Moore, Dr Eamon O'Flaherty, Professor Anngret Simms, MRIA, Ms Sarah Gearty, Professor Nicholas Canny, PRIA and Dr Jacinta Prunty at the launch of IHTA, no. 21, *Limerick* in No. 2 Pery Square, Limerick, 11 February 2010 (Photo: Press 22).

The donation, by Lady Barbara Beevor, of the Caldwell papers was the most significant library acquisition this year. Commencing with seventeenth-century documents relating to the Caldwell family in Fermanagh, the collection encompasses the lifetimes of several notable Caldwells, including Charles Caldwell, 1707–76, solicitor to the commissioners of revenue in Dublin, and more importantly, his son Andrew, 1733–1808, barrister, MP and an early Member of the Academy. Andrew Caldwell's circle included James Caulfeild, 1st Earl of Charlemont, Joseph Cooper Walker and James Smith, president of the Linnean Society. Andrew Caldwell's interests included the fine arts, architecture and botany. As a Presbyterian, he attended the Strand Street Meeting House in Dublin, the records of which form part of the Library's Dublin Unitarian Church archive. Andrew's brother, Admiral Sir Benjamin Caldwell, 1739–1820, served with the Royal Navy in North America and the West Indies.

The Caldwell archive comprises a diverse range of property-related documents and correspondence on social, political and family matters, as well as on topics such as travel, architecture and art. Containing nine bound volumes (1639–1872) incorporating estate account books, journals of tours (nineteenth century), miscellaneous correspondence and commonplace books, this significant donation, which we plan to catalogue during the coming year, will be of immense interest to scholars and students of the eighteenth and nineteenth centuries.

Other important acquisitions have been:

► The purchase of an early-nineteenth-century manuscript volume of the musical notations to Irish and other airs (MS 12 X 27), which includes an incomplete letter from Thomas Moore, 1779–1852, and manuscript notes on the inspira-

tion for some of the Irish melodies, the music for which is also contained in the volume.

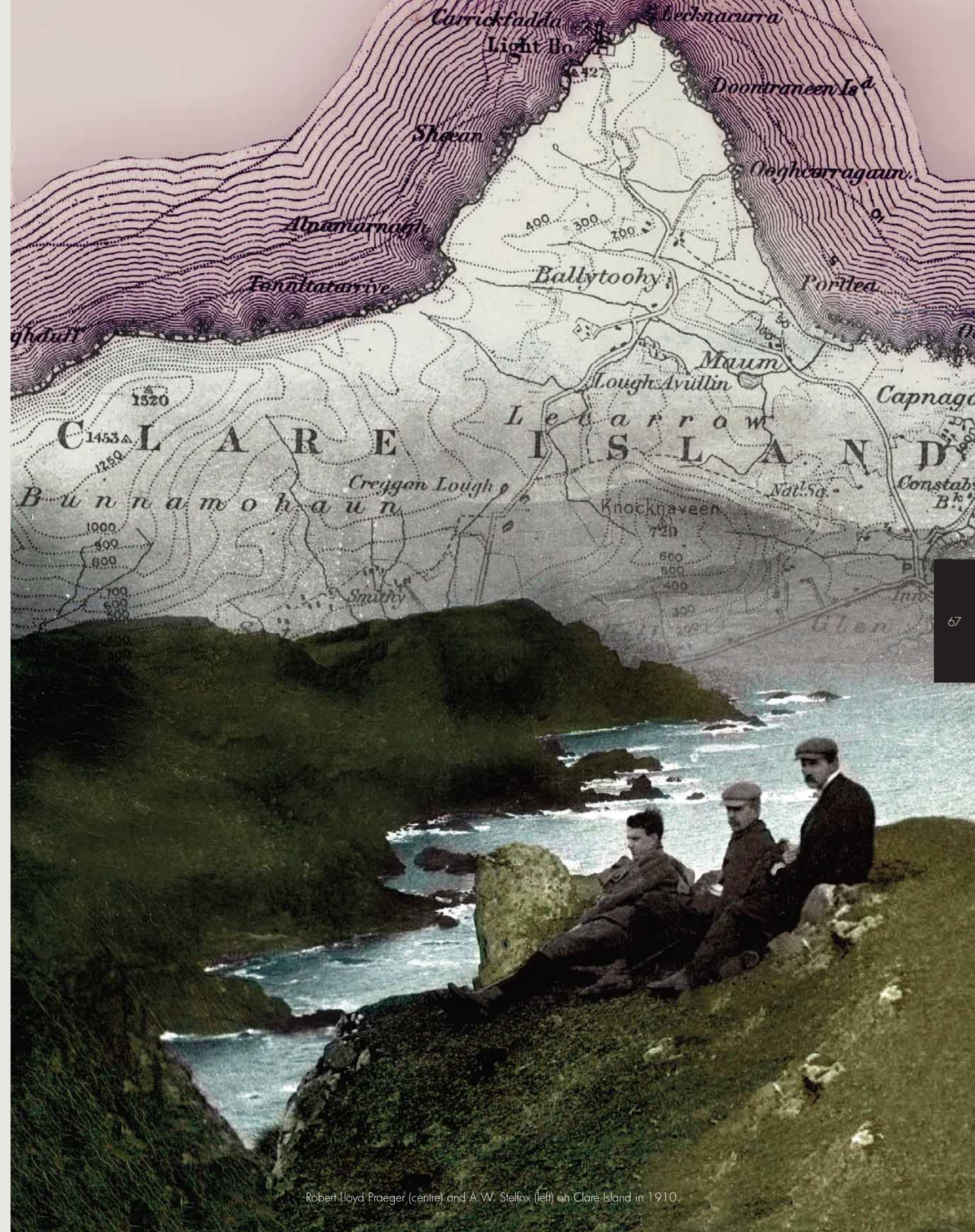
► The late William A. Watts, MRIA, presented Professor Knud Jessen's field notebooks (1834–5) to the Library. These relate to Jessen's ground-breaking research on Irish bogs, 'Studies in late quaternary deposits and flora-history of Ireland', published in *Proceedings of the Royal Irish Academy* Section B 52 (1948–50).

► Peter Woodman, MRIA, augmented the archaeology collections with a donation of titles on the history and philosophy of archaeology.

The Library acknowledges with gratitude the donations by many Academy Members of their monographs and other books. It also acknowledges the numerous donations by readers and members of the public of works that supplement the core collections.

The major exhibition this year—'Darwin, Praeger and the Clare Island Surveys'—saluted the Darwin bicentenary whilst celebrating the centenary of the first Clare Island Survey and in particular the achievement of its leader, Robert Lloyd Praeger, MRIA. Jointly organised by the Library and the Publications Office (through the work of Assistant Editor Roisín Jones), the exhibition was curated by Deputy Librarian Petra Schnabel. Accompanied by a booklet, edited by

Roisín Jones and Martin Steer, MRIA, the exhibition was complemented by a lunchtime lecture series and by two evening lectures and a seminar of the Heron-Allen Society, which was founded to commemorate the many achievements of Edward Heron-Allen, FRS, 1861–1943, who was the contributor on *Foraminifera* to the first Clare Island Survey. Since January 2010, a touring Clare Island exhibition has visited venues in Castlebar, Derry, Belfast, Bangor and Galway. A variant of the 'Treasures of the Royal Irish Academy' exhibition ran from



Robert Lloyd Praeger (centre) and A. W. Stelfox (left) on Clare Island in 1910.

Library Report

>> SIOBHÁN FITZPATRICK, ACADEMY LIBRARIAN, LOOKS BACK AT THE YEAR IN THE LIBRARY

February through June 2010, enhanced by a lecture programme, whilst the Library's Moore exhibition—'Moore on Tour: My Gentle Harp'—continued to tour the country until May 2010.

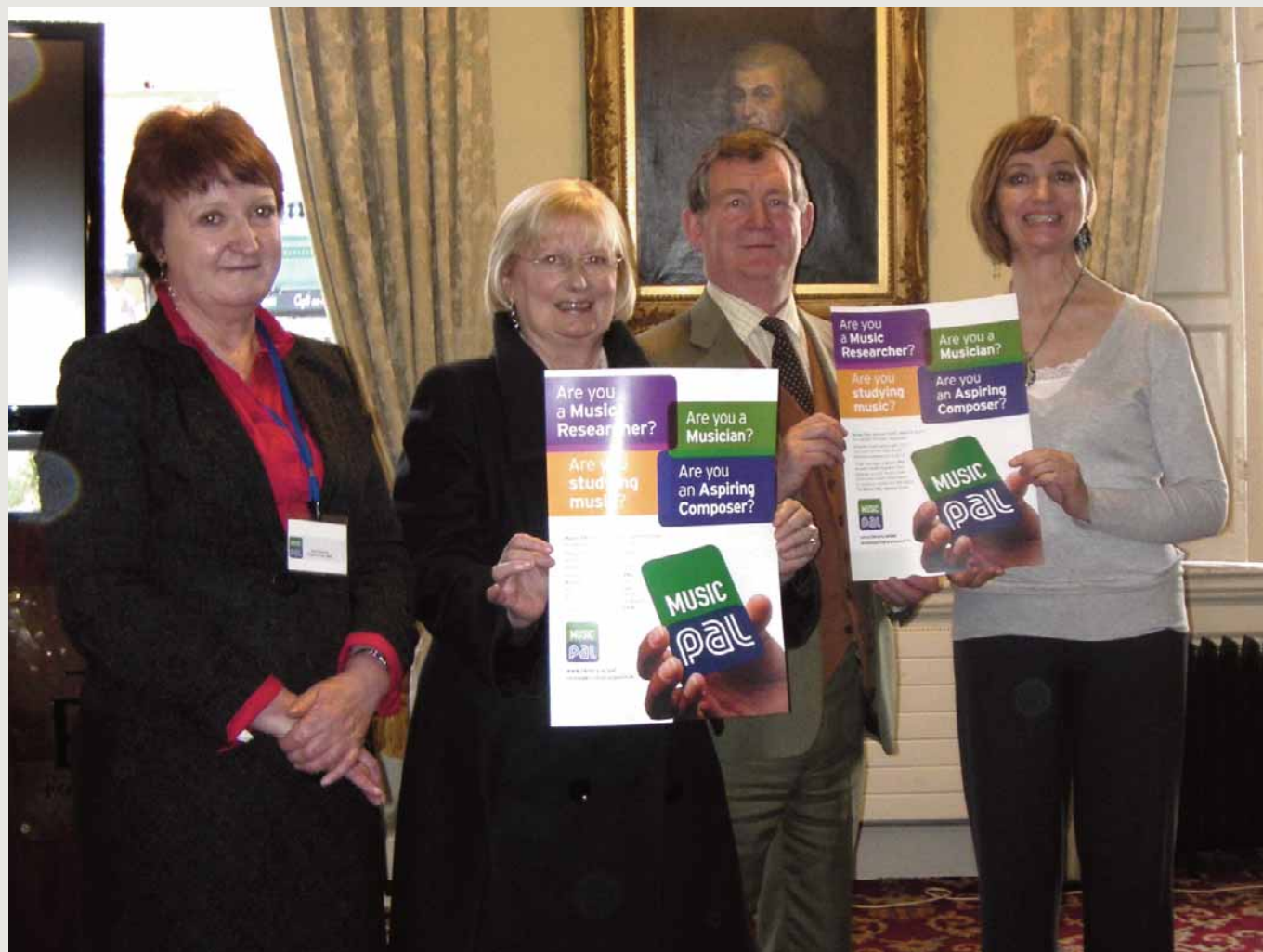
The Library facilitated visits from 37 groups during the year, participated in Heritage Week (21–9 August, 2009) and in Culture Night (25 September, 2009), when 600 visitors were guided through the collections. A special exhibition, 'Cyanotis Binocularis', was featured in the Academy Meeting Room from Culture Night until 30 October. This display of miniature drawings of plant and animal life by the artistic team Soft Blonde Moustache had been inspired by the Darwin exhibition and was one of 21 exhibitions that ran concurrently under the umbrella of 'The Preponderance of the Small', a multi-site project of the Douglas Hyde Gallery.

The Library is continually seeking ways to make the collections more accessible. We therefore welcomed the opportunity to participate in Music PAL (Pathways to Learning), an all-island, cross-sectoral, managed referral initiative to encourage and enable music research, composition, production and performance. Music PAL was launched by writer and broadcaster Deirdre Purcell at the Academy on 8 March (to find out more see: www.library.ie/pal).

The Library has taken responsibility for the management of the Irish History Online database. Over 70,000 bibliographic records relating to Irish history, which were previously held on the Royal Historical Society's server at the Institute of Historic Research in London, have been migrated to the Library's domain and a new Web interface has been developed: www.irish-historyonline.ie.

The Library continues to serve the membership and to support research projects of the Academy, our academic partner libraries and the general public. See the Library website for further news: www.ria.ie/library.

Deirdre Purcell launching Music PAL, with, left to right: Jean Harrison (Chair, COLICO), Joe McKee (City of Belfast School of Music) and Una Hunt (DIT and Thomas Moore Festival). Photo courtesy of The Library Council.



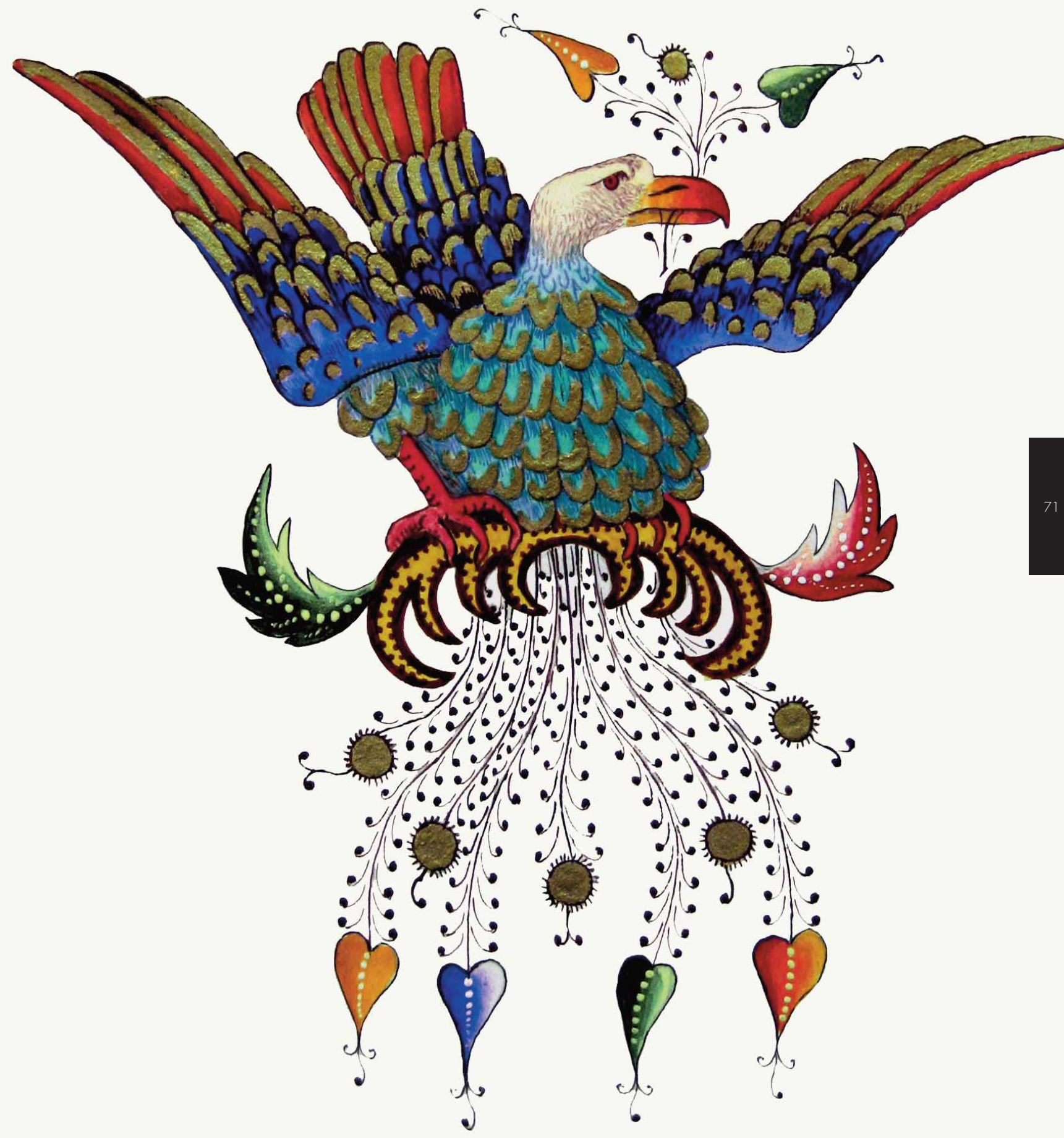
Treasures revealed

TWO MANUSCRIPT NOVELS IN THE LIBRARY'S COLLECTION

The images shown here are from two illuminated manuscript novels by A.C.U. Marchmont, presented to the Academy in 2000 by Dr Mary Pollard, MRIA, 1922–2005.

Entitled, 'The days that are past' (MS 12 X 22) and 'The mysterious stranger' (MS 12 X 23), the former was dedicated to Miss Lisette A. Corder and an inscription on the front endpaper of the volume reads 'Lisette A. Corder with her sister's best love, Derramore, April 27, 1864'. Derramore probably refers to Derrymore, Co. Longford, and it may be deduced from the inscription that the author was a Mrs Marchmont. Alternatively, Marchmont may be a pseudonym.

The script is even and delicate throughout and the illustrations are assured and charming.





HELENA KING

I

n the face of the ongoing economic difficulties besetting the country generally, and with the publishing industry in Ireland, and globally, suffering in broad terms, it is too much to hope that the Academy's publication efforts might escape unscathed. The ongoing moratorium on public sector recruitment has meant that the staffing of the Publications Office has been reduced during 2009–10; the tightening of budgets across all academic sectors and government Departments has seen funding that might previously have been available to support publication projects shrink dramatically; and monetary pressures, not least on the book-buying public, have impacted on the bookshops. All of these factors have had an effect on the Academy's publication efforts; albeit one that we may not fully realise until we come to write the reviews for 2010–11 and beyond.

Accentuating the positive

>> HELENA KING, ACTING MANAGING EDITOR OF PUBLICATIONS, REVIEWS THE PUBLICATION HIGHLIGHTS OF 2009–10

Tom Garvin pictured with the cover of his book *Judging Lemass* (2009).

▶▶ In the meantime we can only look at the positives—highlighting the achievements of late-2009 and early-2010, and focusing on our plans and aspirations for the rest of

2010 and further ahead. One positive item to report is that sales of Academy publications held up very well for 2009. The total figures for sales of both books and journals for 2009 are outlined in Appendix V. The publication and launch of the landmark *Dictionary of Irish Biography* in November 2009, discussed in the project report elsewhere in this Review, is another positive to reflect on for the year; as is the success of *Judging Lemass: the measure of the man*, by Tom Garvin, MRIA, which was launched in September 2009 by An Taoiseach Brian Cowen, TD; and *Conspiracy: Irish political trials*, by Myles Dungan, launched in October 2009.

In *Judging Lemass*, Tom Garvin offers an exploration of the many facets of the character of former taoiseach Seán Lemass, whose time in charge at the Department of Industry and Commerce marked the beginning of a long process that transformed Ireland from an agrarian province to a thriving, developed country. The process of change has been seen as a model for many aspirant developing countries. In *Conspiracy*, which sought to make archival material on Irish legal and political history accessible to a broad, general readership, Myles Dungan considers the clashes, plots and perjuries that characterised seven notorious trials held between 1803 and 1916, including that of Robert Emmet, the courts martial following the 1916 Rising and the trials in 1882 of those accused of the Maamtrasna Murders.

February 2010 saw the publication of a special issue of the journal *Biology & Environment*, devoted to the EU Water Framework Directive and its implications for Ireland. This publication, edited by Dr Tom Curtis and Dr Mary Kelly-Quinn, was launched in Academy House by Minister for the Environment, Heritage and Local Government John Gormley, TD. The Water Framework Directive is the most important piece of European Union water legislation to date. The aim of the special issue of *Biology & Environment* was to collate in one

volume all of the work pertinent to the Directive carried out by the various stakeholders in both state and semi-state agencies and by local authorities, universities and expert consultants.

February also saw the publication of the 21st fascicle of the Irish Historic Towns Atlas series, *Limerick*, which is discussed in the IHTA project pages, along with the *Longford* volume, published in June, and the other ancillary publications due from the project later in 2010.

Another late-summer 2010 publication is *Policing the narrow ground: lessons from the transformation of policing in Northern Ireland*. This is a collection of essays containing reflections from key actors involved in the hugely important reform process behind the *Patten Report* on policing in Northern Ireland, including Chris Patten himself, Hugh Orde and Nuala O'Loan. In addition, the volume, which is edited by Dr John Doyle (also Editor of the Academy's *Irish Studies in International Affairs* journal), contains a number of academic analyses of the process of policing reform in Northern Ireland and its international significance.

In autumn 2010 we look forward to the publication of the seventh volume in the Documents on Irish Foreign Policy series; the *Law of the Sea*, a book by former diplomat Mahon Hayes on the negotiations that led to the treaty of that name and the role of the Irish delegation during the UN conferences at which it was negotiated; and a history of the Cumann na nGaedheal party by Ciara Meehan. Work is ongoing on the *Excavations at Knowth* series; the *New Survey of Clare Island* series; a monograph about *Domestic life in Ireland*, which is a supplementary publication of the Academy's journal *Proceedings Section C*; and a variety of other projects in development or under consideration. We continue to receive submissions and proposals, from the membership of the Academy and the wider academic community, but also from outside these traditional audiences for Academy publications, which again can only be considered a positive response to the Academy's ongoing efforts to support and promote scholarly excellence and communicate scholarly material to a wider public.

Daniel O'Connell (detail from group portrait attributed to Joseph Patrick Haverty, RHA) taken from *Conspiracy: Irish political trials*, by Myles Dungan.



Mobility Grants

In 2009, 10 awards were made under the Academy's Mobility Grants Scheme, which was followed up with the award of 11 grants under the 2010 round of the Scheme. The Mobility Grants Scheme is designed to provide funding to early career researchers in both the sciences and the humanities to undertake short visits to any country to support primary research. Visits are generally between one week and six weeks in length, the key objectives being to initiate one-to-one collaborations and explore opportunities to build lasting networks and gain access to ideas, research facilities and complementary equipment. Some of the projects funded in 2009 include:

MOBILITY GRANTS FOR THE SCIENCES

Dr Rachel Evans, Trinity College Dublin: 'Self-assembled structured organic-inorganic nanocomposites for optoelectronic, photovoltaic and sensor applications'.

Dr Akintunde Babatunde, University College Dublin: 'Assessing the suitability as a fertiliser and the environmental acceptability of phosphorus-saturated alum sludge previously used as a substrate in a constructed wetland system'.

Dr Jennifer McManus, National University of Ireland, Maynooth: 'Measuring the mechanical properties of soft matter *in vivo*: cavitation rheology of the brain'.

Dr Robert Patrick Ryan, University College Cork: 'The role of interspecies communication in influencing virulence, biofilm formation and antibiotic resistance of bacterial pathogens associated with cystic fibrosis'.

Dr Antoinette Perry, Trinity College Dublin: 'Determining an miRNA methylation signature and its significance in prostate cancer'.

MOBILITY GRANTS FOR THE HUMANITIES

Dr James Hanrahan, National University of Ireland, Maynooth: 'Voltaire's pamphlets for the Pays de Gex, 1763–75'.

Dr Liam Lenihan, University College Cork: 'Epic art: the writings of James Barry'.

Dr Liam Weeks, University College Cork: 'The party's not over, but there's life outside it: a comparative study of independent politicians in Ireland and Australia'.

Dr Michael Harrigan, National University of Ireland, Maynooth: 'Writing history in early modern French colonial texts'.

Dr Sonja Tiernan, Trinity College Dublin: 'A life study of Irish poet, playwright and political activist, Eva Gore-Booth (1870–1926)'.

Dr Majella Gibin, National University of Ireland, Galway: 'Regional competitiveness and development: a comparative study of the medical technology sectors in Ireland and Massachusetts'.

APPENDICES

Appendix I—Members (corrected to July 2010)

Aalen, Frederick Herman Andreasen
Allen, Ingrid Victoria
Almqvist, Bo Gunnar
Andrews, John Harwood
Arbuthnott, John Peebles
Atkins, John Fuller

Baghramian, Maria
Bailey, Mark Edward
Baillie, Michael George Lockhart
Bartlett, John Raymond
Bartlett, Thomas
Bates, Brian
Bates, John Raphael (Ray)
Bell, Kenneth Lloyd
Bew, Paul Anthony Elliott
Blau, Werner
Bloomfield, Kenneth Percy
Boland, John
Borooah, Vani Kant
Bourke, Angela
Bowler, Peter John
Boyd, Derek Raymond
Brady, Hugh
Brazil, Thomas Joseph
Breatnach, Caoimhín
Breatnach, Liam
Breatnach, Pádraig A.
Breen, Richard
Brennan Glucksman, Loretta
Brewer, John David
Bric, Maurice J.
Brown, David Arthur
Brown, Terence Peter McCord
Browne, James Joseph
Buchanan, Ronald Hull
Burch, Robert
Burke, Laurence Declan
Burke, Philip George
Burnett, Mark Thornton
Burns, Duncan Thorburn
Butler, Richard Noel
Buttimer, Anne
Byrne, Francis John
Byrne, Ruth Mary Josephine

Caffrey, Martin
Caldicott, Clive Edric John (Rick)
Campbell, Bruce Mortimer Stanley
Cannon, Paul John
Canny, Nicholas Patrick
Carpenter, Andrew
Carroll, Peter Kevin
Casey, James Patrick
Cathcart, Kevin James

Chisholm, John Stephen Roy
Clarke, Aidan
Clarke, Desmond Matthew
Clarke, Howard Brian
Clarkson, Leslie Albert
Clayton, Geoffrey
Clayton, Mary
Coe, John Michael David
Coffey, William Thomas
Colleran, Emer
Conniffe, Denis
Connolly, Seán Joseph
Conroy, Jane
Cooke, Maeve
Cooney, Brendan Gabriel
Corish, John (Seán)
Corish, Patrick Joseph
Cosgrove, Arthur Joseph
Cotter, Thomas Gerard
Coxon, Peter
Craig, Maurice James
Cromien, Seán Patrick
Cronin, Michael Anthony
Crookshank, Anne Olivia
Crossland, Bernard
Crothers, Derrick Samuel Frederick
Cruickshank, Don William
Cullen, Louis Michael
Cunningham, Edward Patrick
Curl, James Stevens

Dainty, John Christopher
Daly, Mary
Daly, Mary Elizabeth
Davenport, John
Dawson, Kenneth Adrian
de Brún, Pádraig
de Paor, Anraoi Máire
de Silva, Amílra Prasanna
Deane, Seamus Francis
Decker, Stefan Josef
Delaney, Cyril Francis George
Dickson, David Jocelyn
Dillon, John Myles
Dineen, Seán
Dixon, Victor Frederick
Dolly, James Oliver
Donlon, Patricia
Donnan, Samuel Hastings Charles
Donnelly, Dervilla M.X.
Dooge, James C.I.
Dorman, Charles James
Dorr, Noel Kieran
Downer, Roger George Hamill
Doyle, John Gerard

Drury, Luke O'Connor
Duggan, Patrick Finbarr

Elwood, Robert William
Engel, Paul Cowper
English, Richard
Eogan, George Francis
Evans, Gwilym Owen

Fairley, James Stewart
Fanning, J. Ronan
Feakins, David
Fegan, David John
Fennell, Bridget Mary (Caroline)
Finlay, William D.
Fitzgerald, Desmond
FitzGerald, Garret Michael Desmond
FitzGerald, Maurice John Turlough
Fitzmaurice, Donald
Fitzpatrick, David Patrick Brian
Fitzpatrick, John Aidan
Flanagan, Marie Therese
Flatt, Peter Raymond
Flavin, James Noel
Fletcher, Alan John
Foster, Timothy James
Fottrell, Patrick F.
Fraher, John Patrick
Freuder, Eugene C.
Freyne, Seán V.
Froggatt, Peter
Fuchs, Anne
Fusco, Vincent F.

Gallagher, Mary
Gannon, Frank
Gardiner, Stephen James
Gargett, Graham
Garvin, Thomas Christopher
Gibson, Norman James
Gilbody, Henry Brian
Gillespie, Raymond
Gilliland, Raymond Brian
Gleeson, Dermot
Gooding, David Willoughby
Gorman, Jonathan Lamb
Gow, Roderick Ian S.
Graham, William George
Gregson, Peter John
Greene, Nicholas
Grimson, Jane
Guiry, Michael Dominic Richard

Halton, David William
Hand, Geoffrey Joseph Philip

Hannan, Damian Francis
 Harbison, Peter Desmond
 Hardiman, Adrian Patrick
 Hardiman, Thomas P.
 Harmon, Maurice
 Harris, William C.
 Harvey, Brian Joseph
 Haughton, Joseph Pedlow
 Hayes, Maurice N.
 Hayes, Michael Alphonsus
 Hayes, Michael Hilary B.
 Hayton, David William
 Heaney, Seamus Justin
 Hederman O'Brien, Miriam
 Heffernan, Peter
 Heffron, James Joseph Alexander
 Hegarty, Anthony Francis
 Hegarty, John
 Henry, Patrick Leo
 Herbert, Máire R.M.
 Herity, Michael
 Herries Davies, Gordon Leslie
 Hibbert, Alan
 Higgins, Desmond Gerard
 Hill, Colin
 Hill, Jacqueline Rhoda
 Hogan, Peter Augustine
 Holland, Celia Victoria
 Holland, Charles Hepworth
 Holland, Finbarr
 Honohan, Patrick
 Home, John Nicholas
 Hu, Peijun
 Hughes, Thomas Jones
 Humphries, Peter
 Huxley, George Leonard

Imbusch, George Francis
 Ingram, Attracta
 Irwin, George William
 Iwaniec, Dorota Stanislaw

Jeffery, Keith
 Jones, Alan
 Jones, Michael Bevan
 Judge, David J.

Kane, Michael Thomas
 Kavanagh, Anthony (Tony)
 Kearney, Richard Marius
 Keatinge, Neil Patrick
 Kelly, Fergus Samuel
 Kelly, James J.
 Kelly, John Maffat
 Kelly, Mary
 Kennedy, Dennis
 Kennedy, Eugene Thomas
 Kennedy, Geraldine
 Kennedy, Kieran Anthony
 Kennedy, Michael Peter
 Keogh, Dermot Francis
 Kernan, Roderick Patrick
 Kiberd, Declan
 Kim, Myung Shik
 Kingston, Arthur Edward
 Kinsella, Bridget Therese

Laffan, Brigid
 Laffey, Thomas Joseph

Lane, Philip Richard
 Laver, Michael John
 Lee, John Joseph
 Lennon, Colm
 Leonard, Brian Edmund
 Lewis, Ciaran Liam S.
 Little, John Roger Graham
 Livingstone, David N.
 Lloyd, David Robert
 Longley, Edna Mary
 Luce, John Victor
 Lunney, James Gerard
 Lydon, James Francis Michael
 Lynch, Marina Annetta
 Lynn, Christopher J.
 Lyons, William Edward
 lysaght, Patricia

Magennis, Hugh
 Malcomson, Anthony Peter William
 Malesevic, Sinisa
 Mallory, James P.
 Malthouse, Jonathan Paul Gascoigne
 Manning, Maurice Anthony
 Martin, Seamus Joseph
 Masterson, Patrick
 Mathieu, Martin
 Mayes, Andrew David Hastings
 Mayhew, Stephen George
 Mays, James Carthew Carden
 MacCraith, Brian Dominic
 MacEoin, Gearóid S.
 Macfadyen, Amyan
 MacLachlan, Malcolm
 Mac Mathúna, Séamus
 McAleese, Mary
 McArdle, Patrick
 McBreen, Brian Philip
 McBrierty, Vincent Joseph
 McCabe, (Alfred) Marshall
 McCann, Malachy
 McCanny, John Vincent
 McCarthy, Carmel
 McCarthy, Matthew F.
 McConnell, David John
 McCutcheon, William Alan
 McDonald, Marianne
 McDowell, Robert Brendan
 McEvoy, James Joseph
 McGilp, John Finlay
 McGing, Brian C.
 McGlinchey, Michael James
 McGuire, James Ivan
 McKenna, Patrick Gerald
 McKervey, Michael Anthony
 McLoughlin, John Vincent
 McManus, Peter Damian J.
 McMurry, Thomas Brian Hamilton
 McNamara, Martin Joseph
 McNulty, Helene M.
 McParland, Edward Joseph
 Meehan, Elizabeth Marian
 Mennell, Stephen
 Metnieks, Arvids Leons
 Mills, Kingston Henry Gordon
 Mitchell, Peter Ian
 Mitchell, Thomas Noel
 Moiseiwitsch, Benjamin Lawrence
 Montgomery, William Ian

Magennis, Hugh
 Malcomson, Anthony Peter William
 Malesevic, Sinisa
 Mallory, James P.
 Malthouse, Jonathan Paul Gascoigne
 Manning, Maurice Anthony
 Martin, Seamus Joseph
 Masterson, Patrick
 Mathieu, Martin
 Mayes, Andrew David Hastings
 Mayhew, Stephen George
 Mays, James Carthew Carden
 MacCraith, Brian Dominic
 MacEoin, Gearóid S.
 Macfadyen, Amyan
 MacLachlan, Malcolm
 Mac Mathúna, Séamus
 McAleese, Mary
 McArdle, Patrick
 McBreen, Brian Philip
 McBrierty, Vincent Joseph
 McCabe, (Alfred) Marshall
 McCann, Malachy
 McCanny, John Vincent
 McCarthy, Carmel
 McCarthy, Matthew F.
 McConnell, David John
 McCutcheon, William Alan
 McDonald, Marianne
 McDowell, Robert Brendan
 McEvoy, James Joseph
 McGilp, John Finlay
 McGing, Brian C.
 McGlinchey, Michael James
 McGuire, James Ivan
 McKenna, Patrick Gerald
 McKervey, Michael Anthony
 McLoughlin, John Vincent
 McManus, Peter Damian J.
 McMurry, Thomas Brian Hamilton
 McNamara, Martin Joseph
 McNulty, Helene M.
 McParland, Edward Joseph
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 Mayhew, Stephen George
 Mays, James Carthew Carden
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 Macfadyen, Amyan
 MacLachlan, Malcolm
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 McGilp, John Finlay
 McGing, Brian C.
 McGlinchey, Michael James
 McGuire, James Ivan
 McKenna, Patrick Gerald
 McKervey, Michael Anthony
 McLoughlin, John Vincent
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 McMurry, Thomas Brian Hamilton
 McNamara, Martin Joseph
 McNulty, Helene M.
 McParland, Edward Joseph
 Meehan, Elizabeth Marian
 Mennell, Stephen
 Metnieks, Arvids Leons
 Mills, Kingston Henry Gordon
 Mitchell, Peter Ian
 Mitchell, Thomas Noel
 Moiseiwitsch, Benjamin Lawrence
 Montgomery, William Ian

Montwill, Alexander
 Moore, John J.
 Moran, Anthony P.
 Moran, Dermot Brendan
 Morash, Christopher
 More O'Ferrall, Rory Anthony
 Morison, John
 Murphy, Brian
 Murtagh, Fionn D.

Nahm, Werner
 Naughton, Carmel Patricia
 Neary, James Peter
 Nelson, Margaret Jane
 Newell, Martin Leonard
 Nic Craith, Máiréad
 Nolan, Brian
 Nowlan, Kevin Barry

O'Brien, William Francis
 Ó Carragáin, Éamonn
 Ó Coileáin, Seán
 Ó Con Ceanainn, Tomás
 O'Connell, Michael
 O'Connor, James Patrick
 Ó Corráin, Donnchadh
 Ó Cróinín, Dáibhí Iarla
 Ó Dochartaigh, Pól
 O Donoghue, Brendan
 O'Dowd, Mary
 O'Farrell, Anthony Gilbert
 Ó Fiannachta, Pádraig
 Ó Floinn, Ragnall
 O'Gara, Fergal
 Ó Gráda, Cormac
 O'Halpin, Eunan
 O'Hare, Daniel
 Ó hUiginn, Ruairí
 Ó Madagáin, Breandán
 O'Malley, Mark J.
 Ó Muraile, Éamonn Nollaig
 Ó Murchú, Máirtín
 O'Neill, Luke A.J.
 O'Regan, Ronan Gerard
 O'Reilly, Eoin Patrick
 O'Reilly, Francis J.
 O'Reilly, Jennifer
 Ó Riain, Pádraig Seosamh
 Ó Riordáin, Antoine Breandán
 O'Rourke, Kevin H.
 O'Sullivan, Denis Francis
 O'Sullivan, Gerard D.
 O'Sullivan, William Ivo
 Osborough, William Nial
 Ottewill, Adrian Christopher

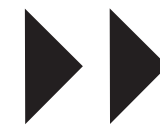
Parnas, David Lorge
 Phillips, John Roland Seymour
 Prendergast, Patrick John
 Pulé, Joseph

Quigley, George
 Quinn, Charles Martin
 Quinn, Lochlann Gerard

Rafferty, Barry
 Ray, Thomas
 Regan, Ciarán Martin
 Richardson, David Horsfall Stuart

Ridley, Hugh Malcolm
 Rima, Bert
 Robertson, Ian Hamilton
 Robinson, Mary
 Roche, James A. (Jim)
 Roddie, Ian Campbell
 Rooney, John Joseph
 Ross, Julian Richard Huxham
 Ross, Paul
 Royle, Stephen Arthur
 Ruane, Frances Philomena
 Ryan, Michael Edward Fitzgerald
 Ryan, Pierce
 Ryan, William James Louden
 Rynne, Etienne

Sagarra, Eda
 Scaife, Brendan Kevin Patrick
 Scanlan, John Oliver (Seán)
 Scattergood, Vincent John
 Schabas, William Anthony
 Scott, Alexander Brian
 Scott, John Martin
 Sen, Siddhartha
 Sevastopulo, George Demetrius
 Sexton, Michael Cornelius
 Shanks, Robert Gray
 Shannon, Patrick Mary
 Sharp, Paul Martin
 Shatashvili, Samson



Honorary Members (corrected to July 2010)

Atiyah, Michael Francis

Bodmer, Walter Frederick
 Briggs, Derek E.G.
 Barnard, Toby Christopher
 Beierwaltes, Werner
 Boardman, John
 Brown, Peter

Carey, Martin C.
 Cavalli-Sforza, Luigi Luca
 Charles-Edwards, Thomas
 Coles, John Morton
 Colwell, Rita
 Cunliffe, Barry

Dalgarno, Alexander
 Dewey, John Frederick
 Dowling, Patrick J.
 Devine, Thomas M.
 Dumville, David Norman

Eriksen, Jerald L.
 Evans, D. Ellis

Faust, Catherine Drew Gilpin
 Flannery, Martin Raymond
 Flowers, Brian Hilton
 Foster, Robert Fitzroy
 Frame, Robert (Robin) Ferris
 Franke, Herbert

Shee Twohig, Elizabeth
 Simms, Anngret
 Simms, David John
 Simms, Mary Katharine
 Slevin, James A. (Jim)
 Slote, Michael Anthony
 Smith, Andrew
 Smith, Francis Jack
 Smyth, Malcolm Roland
 Smyth, William John
 Spearman, Thomas David
 Spencer, Brian
 Spillane, William James
 Stalley, Roger Andrew
 Steer, Martin William
 Stewart, J.A. Carson
 Strain, John Joseph Seán
 Sun, Da-Wen
 Sutherland, Peter Denis
 Sweetman, Patrick David

Takahashi, Yasushi
 Taylor, David
 Taylor, Kenneth Thomas Andrew
 Tchrakian, Tigran Hakop
 Teegan, John Pentony
 Thornhill, Don
 Tipton, Keith Francis
 Todd, Jennifer

Frey, Otto-Hermann

Gelfand, Izrail Moiseyevich
 Gell-Mann, Murray
 Gray, George William
 Grubbs, Robert H.
 Gunning, Brian Edgar Scourse

Hamp, Eric Pratt
 Hayes, William
 Herren, Michael W.
 Hirzebruch, Friedrich Ernst Peter
 Hockfield, Susan
 Hoppen, Karl Theodore (Theo)
 Huxley, Andrew Fielding

Jaffe, Arthur
 Jäger, Helmut
 Jeaneau, Edward

Leerssen, Joseph Theodoor (Joep)
 Lehn, Jean-Marie Pierre
 Lippard, Stephen J.
 Loeber, Rolf
 Luckhurst, Geoffrey Roger

MacIntyre, Alasdair
 McElroy, Michael Brendan
 Malone, Thomas Francis
 Mény, Yves
 Morawetz, Cathleen Synge

Vij, Jagdish Kumar
 von Prondzynski, Ferdinand
 Vos, Johannes Gerardus

Waddell, John
 Waddington, John Lionel
 Wallace, Patrick Francis
 Walmsley, David George
 Walsh, Brendan M.
 Walsh, Edward
 Walters, Harry Robert James
 Warner, Richard Boyden
 Weaire, Denis Lawrence
 Welch, Robert Anthony
 West, Timothy Trevor
 Whelan, Christopher Thomas
 Whelan, Karl
 Whelan, Ruth E.
 Whiston, James Francis
 Whitaker, Thomas Kenneth (T.K.)
 White, Harry
 Whitehead, David
 Williams, David Clive
 Wolfe, Kenneth H.
 Woodman, Peter
 Wright, Barbara
 Wrixon, Gerard T.

TOTAL 442

Morrill, John Seton

Nicholson, Ernest Wilson

O'Neill, Onora

Penrose, Roger
 Pépin, Jean
 Pettit, Philip Noel

Randall, Lisa
 Rice, Stuart Alan
 Rice, T. Maurice
 Roques, René François Lucien

Schmidt, Karl Horst
 Sen, Amartya Kumar
 Solow, Robert M.
 Skinner, Quentin R.D.

Thomas, Charles

Watkins, Calvert
 Watson, James Dewey
 Weekes, Trevor C.
 Weinberg, Steven
 West, Richard G.
 Wilson, David

TOTAL 73

Appendix II—Council and Executive Committee (corrected to July 2010)

PRESIDENT: Nicholas P. Canny

EXECUTIVE COMMITTEE 2010–11

The President	Nicholas P. Canny
The Senior Vice-President	David J. Fegan
The Treasurer	John (Seán) Corish
The Secretary	Thomas J. Brazil
The PL&A Secretary	Michael A. Cronin
The Science Secretary	Peter I. Mitchell
The International Relations Secretary	Marie Therese Flanagan
The Executive Secretary	Mr Patrick Buckley
The Staff Representative	Dr Bernadette Cunningham

COMMITTEE OF POLITE LITERATURE AND ANTIQUITIES:

Pádraig A. Breatnach	
Andrew Carpenter	
Michael A. Cronin	PL&A Secretary
Mary E. Daly	Vice-President
Marie Therese Flanagan	International Relations Secretary
Máire Herbert	
Séamus Mac Mathúna	Vice-President
James McGuire	
Seán Ó Caileáin	
Dáibhí Ó Cróinín	

COMMITTEE OF SCIENCE:

J. Ray Bates	
Kenneth L. Bell	
Thomas J. Brazil	Secretary
John (Seán) Corish	Treasurer
Seán Dineen	
David J. Fegan	Senior Vice-President
A. Frank Hegarty	
Thomas J. Laffey	
Peter I. Mitchell	Science Secretary
Anthony G. O'Farrell	
Fergal O'Gara	Vice-President

Appendix III—Academy Committees (corrected to July 2010)

The initials of the Programme Manager for each Committee are contained in brackets after the name of the Committee, as follows:

GC—Ms Gilly Clarke
RG—Ms Rebecca Gageby
JM—Dr John Maguire
LM—Ms Laura Mahoney

SCIENCE COMMITTEES

Astronomy and Space Sciences (GC)

Dr S. Bagnulo
 Dr R. Butler
 Dr P. Callanan

Dr P. Gallagher
 Sheila Gilheany
 Dr G. Hallinan
 Professor L. Hanlon
 Dr S. Jeffery
 Dr D. McDonald
 Professor E. Meurs
 Mr D. Moore
 Professor A. Murphy
 Dr L. Norci
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(Corrected to September 2010)

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Ms Gilly Clarke *Programme Manager*
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Ms Orfhlaith Flynn *Executive Assistant*
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Ms Gerrie McLean *Senior Executive Assistant (On career break)*

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Ms Penny Iremonger *Research Assistant*
Mr John Montague *Research Assistant*
Ms Ellen Rowley *Research Assistant*

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Ms Caoimhe Graham *Communications and Marketing Assistant (Intern)*

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Dr Faith Lawrence *Humanities Specialist*
Mr Shawn Day *Humanities Specialist*
Dr Randall Cream *Humanities Specialist*
Mr Paolo Battino *Web Developer*
Dr Emily Cullen *Programme Manager*
Ms Katie McCadden *Programme Manager*

Dictionary of Irish Biography

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Dr Turlough O'Riordan *Research and Editorial Assistant*
Mr Lawrence White *Research and Editorial Assistant*

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 Ms Éilís Ní Mhearraí *Óifigeach Riaracháin/Cóipeagarthóir*

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 Mr Gréagoir Mac Giolla Easbuig *Ionchuradóir/Cóipcheartaitheoir*
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 Mr Niall Ó'Ceallaigh *Próiseálaí Téacsanna*
 Ms Nóra Uí Ghallchóir *Próiseálaí Téacsanna*
 Ms Máire Mhic Fhionnlaóich *Próiseálaí Téacsanna*

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 Ms Jemma Lyons *HR Assistant*

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Ms Jennifer Moore *Editorial Assistant*
 Ms Anne Rosenbusch *Research Assistant*

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 Mr Alan Jacob *Senior IT Support Specialist*
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 Dr John Maguire *Programme Manager*

Appendix V—Summary of Accounts for the year ended 31 December 2009

GENERAL PURPOSES CURRENT ACCOUNT*

	€
Income	
Grant-in-aid	3,887,000
Entrance fees & Members' subscriptions	31,257
Sale of publications	352,547
Sale of proceedings	61,031
Miscellaneous	207,425
Brought forward from previous year	146,804
Room rental	25,247
Department of the Gaeltacht	<u>140,445</u>
Total Income	<u>4,851,756</u>
Direct Expenditure	
Audit, law, bank, professional charges	20,925
Fuel & light	29,554
Furniture, equipment & household	51,161
Discourses	16,347
Miscellaneous	54,059
General insurances	10,766
Information technology	146,014
Supplementary pensions	149,863
Postage and telephone	55,951
Printing administrative	13,227
Salaries & wages	1,495,489
Stationery & office equipment	45,764
Training & consultancy	<u>61,617</u>
Total	<u>2,150,737</u>
Allocations to Special Accounts	
International Unions & General Assemblies account	46,322
Library account	514,275
Print proceedings account	407,800

General publications account	203,455
Foclóir na Nua-Ghaeilge account	533,087
Celtic Latin Dictionary account	111,463
International Exchanges & Fellowships account	28,254
Irish Historic Towns Atlas account	153,696
Dictionary of Irish Biography account	314,422
Documents on Irish Foreign Policy account	<u>10,000</u>
Total of Allocations	<u>2,322,774</u>
Total of Expenditure	4,473,511
Income	4,851,756
Expenditure	<u>4,473,511</u>
Surplus/(Deficit)EOY	<u>378,245</u>

*The above accounts are shown on a cash receipts basis. Under the provisions of the Comptroller and Auditor-General (Amendment) Act 1993, the Academy's accounts are subject to audit on an accruals basis by the Comptroller and Auditor-General.

The Academy's audited accounts for 2009 had not been received by the Academy from the Comptroller and Auditor-General's Office up to the date of the Annual Review going to print.



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ACADEMY PROJECTS FUNDED UNDER PRTL I CYCLE 4, 2008–11:

Digital Humanities Observatory
St Patrick's *Confessio* Hypertext Stack
Doegen Records Web Project

