30 April 2008

Dr Terry Cutler
c/- Secretariat to the Expert Panel – *Submissions*
Review of the National Innovation System
Department of Innovation, Industry, Science and Research
GPO Box 9839
CANBERRA, ACT 2601

Dear Dr Cutler,

Please find attached the Academy's submission to the Government's Review of the National Innovation System.

The Academy is grateful for the opportunity to contribute its ideas to this important Review. We would be pleased to elaborate on any of our observations and suggestions should the Panel find it helpful.

Please refer any enquiries in the first instance to the Executive Director, John Byron.

With kind regards,

Professor Ian Donaldson FAHA FBA FRSE
President

AUSTRALIAN ACADEMY OF THE HUMANITIES

Submission to the

CUTLER REVIEW of the NATIONAL INNOVATION SYSTEM

30 April 2008

Authors:	Professor Ian Donaldson Professor Graeme Turner Professor Stephen Garton Professor Joe Lo Bianco Dr John Byron Dr Ian Maclean
Organisation:	The Australian Academy of the Humanities
Type of organisation:	Learned Academy – not-for-profit; advocacy
Address:	3 Liversidge Street, Acton
Territory:	Australian Capital Territory
Email and phone contact:	john.byron@humanities.org.au 02 6125 9860 or 0410 557 157
Confidentiality:	No part of this submission is confidential
Declaration of Interest:	The Academy

The Australian Academy of the Humanities was established by Royal Charter in 1969 to advance scholarship and public interest in the humanities in Australia. It comprises over 400 of the most influential and internationally celebrated humanists in Australia. The Academy is an independent, not-for-profit organisation partly funded by the Australian Government under provisions of the *Higher Education Support Act* 2003. The Academy is a registered tax-deductible gift recipient.

Under the Royal Charter and the By-Laws, no Fellow of the Academy may derive financial benefit from his or her involvement in Academy activities. The Academy's

affairs are independently audited each year, and the auditor's report is presented within an Annual Report to the Fellowship and to Government.

Along with the other three Learned Academies, the Academy would benefit directly from the implementation of the initiative to utilise the Learned Academies that is outlined in section 6. In every other respect, this submission manifests the Academy's appointed role as a disinterested advocate for the humanities in Australia, and the Academy has no tangible interest in any other aspect of the National Innovation System upon which it comments.

Declarations of Interest: The Authors

Professor Ian Donaldson is the President of the Academy. He is Honorary Professorial Fellow in English Literary Studies at the University of Melbourne. He was founding Director of the ANU's Humanities Research Centre from 1974 to 1990, and directed the Centre again from 2004 to 2007. He was founding Director of Cambridge University's Centre for Research in the Arts, Social Sciences, and Humanities (CRASSH) from 2001 to 2003.

Professor Graeme Turner is Immediate Past President of the Academy, having served as President from 2004-2007. He is an ARC Federation Fellow, Professor of Cultural Studies, and Director of the Centre for Critical and Cultural Studies at the University of Queensland. He is the Convenor of the Australian Research Council Cultural Research Network and has served a term on the ARC's College of Experts in the Humanities and Creative Arts panel. He is currently Chair of the Humanities, Arts and the Social Sciences Expert Working Group for the Review of the National Collaborative Research Infrastructure Strategy Roadmap.

Professor Stephen Garton serves on the Academy Council as its Editor. He is Challis Professor of History and Dean of the Faculty of Arts at the University of Sydney.

Professor Joe Lo Bianco sits on the Academy Council and is the Convenor of its Language Studies Committee. He is Chair of Language and Literacy Education and Associate Dean (International) in the Faculty of Education at the University of Melbourne. He is Director (with Professor Simon Marginson) of the Collaborative Strategic Research Initiative: The Emerging Educational Needs of Knowledge Economies in the Asia-Pacific Region. He was the author of the 1987 National Policy on Languages, adopted as a bipartisan national plan for English, Indigenous languages, Asian and European languages, and Interpreting and Translating services and now used worldwide as a model of rational language planning.

Dr John Byron is the Academy's Executive Director. He is an Honorary Research Fellow of the Humanities Research Centre at the Australian National University, the Secretary of the Association for Medical Humanities (Australia and New Zealand), and a Board member of the Council for the Humanities, Arts and Social Sciences.

Dr Ian Maclean is Associate Director of the Academy. He is President of the Association for Learning Mandarin in Australia.

Introduction

The Australian Academy of the Humanities is one of the nation's four learned academies. It comprises the pre-eminent scholars and researchers in the humanities in Australia. The Academy aims to advance knowledge of, and the pursuit of excellence in, the humanities in Australia. Further information on the Academy may be obtained from its website, at www.humanities.org.au.

The Australian Academy of the Humanities has a strong interest in the development of innovation and research capacity in Australia, and is pleased to contribute to this significant and timely Review of the National Innovation System. Our submission raises several key issues the Academy believes are important for the Review to consider in its investigations. The Academy has organised its response around the Review's Terms of Reference. A consolidated list of recommendations is at the end of the submission.

The innovation literature is placing increasing emphasis on the importance for successful innovation of factors such as leadership, management, marketing, creativity, organisation, design and social and cultural factors (see Appendix A). These factors may lead to innovation in their own right, and frequently contribute to successful innovation outcomes in conjunction with scientific, technological and engineering inputs. Additionally, research, development and industry activities in the artistic, social and cultural domains are increasingly integrated into innovative processes.

However, while there is now broad acceptance of the role of non-technical factors in positive innovation outcomes, that acceptance is not reflected adequately in the operations and procedures of the institutions and mechanisms through which Australia supports innovation. The tax concession for research and development (the largest single innovation support mechanism in Australia) and the Cooperative Research Centres Program, both of which are discussed later in this submission, are cases in point. Australia's innovation system and the nation at large are the poorer as a result.

1. Identify a set of principles to underpin the role and participation of the public sector in innovation.

The National Innovation System comprises the full range of activity taking place across diverse sections of innovative enterprise in Australia. This *de facto* innovation system includes the fields supported by current public policy and programs, but extends well beyond them to embrace sectors that fall outside descriptions of innovation that are often focused more narrowly on science and technology. Public sector initiatives, not-for-profit sector contributions, creative endeavours and activities geared towards enriching the human experience are all areas of actual innovation that are not yet fully comprehended by innovation support programs.

This mismatch between the range of actual activity and the scope of public sector involvement is detrimental to the national interest. Public sector support for Australia's innovation system should benefit the full range of public policy objectives. To achieve this, national policy settings must support, where necessary and appropriate, innovation wherever it is found. The rigour of selection processes for public support must be strictly maintained, regardless of the sector, discipline or industry, to provide taxpayer assistance based on merit and benefit. Innovation should be supported in pursuit of cultural, artistic, social and heritage objectives, as well as in pursuit of traditional innovation objectives such as the economy, trade and national security. The removal of structural impediments to program support for innovation in these areas will enhance the viability of existing innovative activity in currently unsupported areas, as well as encouraging new activity.

More importantly, recognition of innovative activities outside the scientific and technological field will encourage their use in bringing products, policies, artistic creations and new kinds of knowledge to markets, audiences and the public. Australia is still too often pursuing scientific and technical solutions in isolation from social and cultural perspectives. The challenges and opportunities facing Australia in the twenty-first century are not merely technical or economic, but are deeply embedded in Australian society and culture. Recognition and public encouragement of new fields of innovation will reduce barriers to collaboration between science and technology, on the one hand, and the arts and the humanities, on the other, as partners in new kinds of research and development. The transaction costs and natural impediments to collaboration are high enough without arbitrary structural barriers which see portions of a joint enterprise ineligible for support based solely on the sector of origin of the work and not on their intrinsic merits. This point goes much deeper than realigning the support structures for individual industries, as important as they are in their own right: the idea goes to the heart of the revolution in thinking about innovation policy. More integrated approaches to the challenges facing Australian society will lead to more imaginative, coherent, and enduring solutions and opportunities.

An effective National Innovation System will be founded on the recognition that Australia's major problems and opportunities are complex and multifaceted. These problems and opportunities cannot be approached adequately through a silo mentality; they demand multi-disciplinary approaches. While they usually have technical and scientific components, they *always* have social and cultural components as well:

furthermore, the political, economic and cultural aspects of our major challenges are often those hold the potential for crucial advances. Climate change, water conservation, the health of the Murray-Darling Basin, the salinity crisis and the road toll are all problems which turn fundamentally on questions of political, economic and personal behaviour. Research and expertise in the humanities and social sciences are fundamental to the development of successful national and local responses, and to a more integrated, 'whole-of-knowledge' approach to national problem-solving.

Australia's research and innovation system will benefit from a major realignment, integrating the social sciences and humanities more fully into the nation's policy frameworks and research infrastructure. This is a long-needed move, capable of marking Australia out as a world leader in innovation policy. If the Cutler Review results in the adoption of only one fundamental new principle to underpin the National Innovation System, it should be the adoption of a multi-disciplinary, problem-based approach which fosters diversity and creativity.

The box below provides more detailed examples of problems requiring humanities and social science contributions, addressing just one major challenge for Australia: water conservation and supply. There are many other areas where problems resistant to exclusively technical approaches can be powerfully attacked by broadening the strategic scope to include all areas of knowledge with something to contribute.

Problems requiring humanities and social sciences contributions for the development of effective responses – water conservation and supply

- Intensive upstream use (for example, cotton farms) passes social and economic costs to downstream users which are difficult to assess and compensate
- Climate change and/or drought leads to the totality of water usage rights held by landowners associated with a river being in excess of what the river can bear, leading to conflicts between environmental, heritage and economic values
- The acceptability of water recycled from sewage
- The value home-owners place on house and garden design elements which minimise water use, and the effectiveness of programs to increase these values
- The effectiveness of encouraging individuals to take personal responsibility for their water use, as opposed to, say, price increases.
- Assessment of the energy cost, greenhouse gas emissions and loss of local environmental amenity associated with a major coastal desalination plant versus say, the lower energy cost and associated greenhouse gas emissions, and loss of environmental values for a major dam.

Recommendation 1

That the principles underpinning the role and participation of the public sector in innovation include:

(a) recognition of the full range of innovative activity taking place in the National Innovation System, regardless of industry sector or research discipline;

(b) the need to ensure that all public policy objectives, including cultural, social, heritage and artistic objectives, are able to benefit from innovation activity; and

(c) the centrality of integrated, multi-disciplinary, problem-based approaches to innovation which foster diversity and creativity.

2. Develop a set of national innovation priorities to complement the national research priorities, ensuring the objectives of research programs and other innovation initiatives are complementary.

National Priorities for Innovation

The Academy suggests that it may be more productive to focus on identifying the desired characteristics of the National Innovation System, rather than on developing a set of priorities as such. These characteristics would relate to matters such as the multi-layered linkages between research and innovation, openness to opportunities, the management of risk, balancing support oriented towards inputs versus outputs, public benefit opportunities, and perhaps others. These innovation priority characteristics are essential to the description of the National Innovation System. Conversely, there is a risk that a set of statements which sought to equate the existing national research priorities with complementary innovation priorities might add little guidance to researchers and innovators, and may even dilute and weaken the research and innovation policy frameworks.

National Research Priorities

If the ambition for the National Priorities for Innovation is to complement and support the National Research Priorities, it is necessary to examine the efficacy of the NRPs themselves, in order to ensure that the NRP-NPI complex is up-to-date and effective. The Academy contends that the NRPs are incomplete, overly focused on the technical, and insufficiently coherent. Each of the four thematic areas of public policy interest is inflected in reality with significant social and cultural considerations, yet the NRPs that are meant to address them place little significance on these central aspects. The enhancement of the NRPs in 2003 – "to take greater account of the contributions of social sciences and humanities research" – failed to integrate these approaches into the existing orientation of the NRPs.

Additionally, whole areas of *de facto* national research priority are excluded from the NRP structure. The absence of a fifth rubric recognising the importance to the nation of cultural and social research is a glaring omission and serious harms the credibility of the NRP structure. There is widespread and well-established public support for research in the humanities and social sciences – in history, for instance, or on other cultures, languages, democratic forms, ethics, archaeology, religion, literature – and yet the declared NRPs fail to capture these actual national research priorities.

The Academy recommends that the four existing NRPs be rewritten to more completely and coherently integrate the actual and potential contribution of the humanities and social sciences; and that a fifth National Research Priority be articulated to describe the social and cultural research involved in knowing ourselves, our region and our world.

Recommendation 2

That the four existing National Research Priorities be rewritten to better integrate the actual and potential contributions of the humanities and social sciences.

Recommendation 3

That a fifth National Research Priority be enunciated to include the important social and cultural research involved in knowing ourselves, our region and our world.

3. Identify regulatory and other barriers to innovation and recommend ways to minimise these.

Arbitrary exclusion of potential contributions

The systematic exclusion of entire fields of knowledge and research from innovation support and assistance programs represents a serious and arbitrary regulatory barrier to innovation. The classic example is the exclusion of research in the humanities, arts and social sciences *by definition* from the R&D tax concession which we treat in some detail below in section 5. Other barriers to the full participation of all potential contributors in the National Innovation System include:

- Marginal or non-existent representation on many key advisory bodies such as the Prime Minister's Science, Engineering and Innovation Council; and
- Selective researcher support programs such as international early- and mid-career exchanges that exclude researchers in the humanities, arts and social sciences.

Consistent with the principles outlined in Section 1 above, the elimination from general programs of the systematic exclusion of fields of research and areas of knowledge (by omission or commission) will enable all comers to participate in the National Innovation System according to the value of their contributions, and to compete based on the merits of their proposals.

Recommendation 4

That general support programs for innovation (such as the R&D tax concession) do not exclude fields of research and areas of knowledge but allow all proposals to compete on their merits and intended outcomes.

Recommendation 5

Make appointments to advisory bodies that reflect the full range of activity in the innovation system, to ensure the full breadth of expertise is available to decision-makers.

A linguistically sophisticated, world-ready population*

Languages other than English are of increasing economic importance to Australia and throughout the world. However, the vast majority of systems and infrastructure supporting innovation in Australia have made little progress in recognising, and responding to, this reality.

* This section argues for a comprehensive national languages policy in terms of the support such a policy would provide to the National Innovation System. It is important to recognise, however, that a comprehensive national languages policy would also strongly support other social, cultural and security objectives of Government.

In order to engage effectively with our trading partners, the major power blocs and many other parts of the world affecting Australia's national interests, we need expert knowledge of their languages and cultures. In the major economic zones – North-east Asia, the European Union, South Asia, ASEAN and, increasingly, North America – multilingualism has become and is becoming an essential element of the way nations and regions operate and interact.

The Academy believes the development and implementation of a comprehensive national languages policy to be of major importance to the National Innovation System. As the Minister for Innovation, Industry, Science and Research, the Hon Senator Kim Carr, recently put it,

> An innovation system with a global outlook – which is what I'm determined to create – needs people who can communicate in languages other than English.[*]

The Academy warmly endorses this sentiment, and offers its expertise to assist in developing an effective, realistic national languages policy, with achievable targets for linguistic competence across society as well as threshold rates of competence for particular languages of economic and strategic importance.

For all the demographic diversity and multilingualism to be found within the Australian population, Australia's mainstream academic, innovation and governance institutions retain what appears to be a determinedly monolingual mindset. The nation needs to draw more effectively on this remarkable existing languages skill base.

We also need to augment that base through a comprehensive languages education program, implemented from primary school upwards. Programs cannot be left to develop solely in response to market signals, as learner trends lag significantly behind emerging strategic need. Some languages will need support measures in lean times to help them maintain threshold capability.

The Academy notes that the Australia 2020 Summit of 19-20 April 2008 made a series of recommendations specifically with respect to Asian and regional languages and literacy. The Academy supports these principles but believes that the languages focus needs to extend beyond Asia to all those societies and cultures with whom we seek to engage in the globalised environment in which we now live.

The Academy acted on its conviction concerning the need for a national languages policy by co-hosting the National Languages Summit in Canberra in 2007. Its position approximates that of the Summit Communiqué, which is attached at Appendix B.

Recommendation 6

That the Commonwealth Government develop a comprehensive national languages policy featuring achievable targets and a comprehensive languages education program, to support Australia's National Innovation System and other key Government objectives.

[*] Senator the Hon Kim Carr, Speech to the Committee for the Economic Development of Australia National Innovation Forum, Sydney, 1 April 2008.

A vertically-integrated approach to research and innovation throughout the whole education cycle, from primary school to third age

Innovative societies comprise innovative individuals. If we are to build a more innovative society and economy in Australia, one capable of competing with advanced countries into the future, we need to change the culture throughout Australian society. We will never be more than mildly interesting as a nation if we settle for pockets of innovation here and there in quirky start-ups, or for the occasional genius surrounded by a small bevy of enthusiastic acolytes. The sort of nation Australia needs to be will be imbued with a culture of innovation throughout its population, and will be striving to improve that culture in future generations.

Changing Australian culture demands a radical rethink of how research and innovation will be incorporated into the school curriculum from the earliest ages. Children are born conducting research – physical, biological, technical, cultural, linguistic, sociological, political – but the real challenge is to ensure that our educational approaches foster, guide and support those impulses rather than discourage or shackle them. The teaching profession needs to be supported and developed throughout an education system that is well resourced, well rewarded, and well regarded, and that nurtures talent at every level. We believe there is urgent need for a national review of teacher training and the disciplines; this review should reaffirm the fundamental importance of training school teachers in the disciplines they will be teaching, and of the continuities between school and university.

The Academy draws to the attention of the Review the following "top idea" from the 2020 Summit stream addressing The Productivity Agenda (education, skills, training science and innovation):

> Teaching first
> Establish a national program to attract talented graduates and career-switchers into teaching, and reward teachers for working in national priority areas, including disadvantaged communities, remote areas and in shortage subjects.[*]

Recommendation 7

That there be a national review of teacher training and the disciplines which assesses the current levels of training within disciplines and the continuities between school and university, and identifies means to address any deficiencies found.

[*] Australia 2020 Summit, Initial Summit Report, 20 April 2008. p. 7.

4. Examine the scope for simplifying and reducing program duplication and ensuring that any support provided is well-targeted and easy to access

In light of the systematic exclusion of the humanities identified in Section 1 of this submission, the Academy does not have the practical experience with a sufficient range of innovation programs to comment in any detail on the scope for simplifying and reducing program duplication.

However, we wish to make the general point that funding schemes which are restricted to specific disciplinary areas have two unfortunate effects. Such schemes create pressures for parallel program development for the excluded disciplinary areas, resulting in something like duplication. More importantly, programs which exclude specific disciplines actively discourage the multi-disciplinary approaches to innovation and research which the innovation literature tells us are fundamental to successful innovation outcomes (see Appendix A).

5. Consider the appropriateness, effectiveness and efficiency of the Research and Development (R&D) Tax Concession Scheme in promoting innovation and make recommendations to improve innovation outcomes

Remove artificial and arbitrary impediments to access to support mechanisms

The exclusion of research in the humanities, arts and social sciences *by definition* from the R&D tax concession is inappropriate and hampers the effectiveness and efficiency of this scheme. Activities in these disciplines are deemed (in S. 73B(2C)(f) of the *Income Tax Assessment Act* 1936), without any rationale or explanation, not to be systematic, investigative and experimental, and are thus excluded from eligibility regardless of their merits.

The exclusion *tout court* and *a priori* of a significant swathe of research and development activity is precisely anti-innovative: it closes down creative space; it presages the outcomes of experimental, exploratory work; and it militates severely against interdisciplinary collaboration. Inevitably, it drives genuine innovation elsewhere.

The Academy does not wish to offer an opinion on the R&D Tax Concession Scheme *per se*: other parties are better qualified and more experienced in these matters. However, we would strongly argue that fields of research and areas of knowledge should not be excluded by definition from this or any other general scheme. We agree that this Scheme should be implemented with the utmost rigour as to relevance and probability of advantageous outcomes, and we support the use of the strictest standards for eligibility to all applications, including those featuring humanities, arts and social science content. If the Scheme is to continue in its present form, we recommend that the *ITAA* 1936 be amended to remove Section 73B(2C)(f). If the Scheme is to be significantly reshaped, we recommend that eligibility standards shall apply evenly and across all types of research and development activity, and that arbitrary and unimaginative exclusions be eliminated from the Scheme.

Recommendation 8

That S. 73B(2C)(f) of the Income Tax Assessment Act 1936 be repealed, and that eligibility standards for all innovation programs apply evenly across all types of research and development activity.

6. Consider ways to improve the governance of the National Innovation System to support higher expectations of government agencies and industry

Enlist the Learned Academies to play an integral role in Innovation

Australia's four Learned Academies could be beneficially exploited at the very heart of the National Innovation System, as they are positioned to broker the contributions of 2000 of the nation's top thinkers across all fields of knowledge. At present this valuable national resource is weakly utilised at best, as a source of expert advice to government and industry through mechanisms such as working party participation, commissioned reports, and standing policy committees. With more substantial funding to leverage the input of their Fellows, and the resources to initiate their own inquiries into topics of national interest relating to their respective fields, the Academies could make a much more significant contribution to the National Innovation System.

The Academies are uniquely placed to fulfil this role as they are

- Independent
- Disinterested
- Merit-based
- Internationally recognised

In other words, as Minister Carr recently remarked:

> The Learned Academies are able to provide a unique perspective on research that needs to be done [across the disciplines], without being blinded by allegiances to individual universities. Through them, we are able to tap into research that focuses on advancing knowledge across the whole sector or that may not fit easily into other funding schemes.[*]

The Government could more closely harness this capacity to the National Innovation System by supporting an enhanced role for the Learned Academies in developing well-considered, evidence-based policy, through leveraging the Academies' access to expertise in a very wide range of disciplines.

Recommendation 9

That the Government liaise with the four Learned Academies and the National Academies Forum with a view to strengthening the contribution of each Learned Academy individually and collectively to the National Innovation System.

[*] Senator the Hon Kim Carr, 'Nuclear and Nanotech Head New Grant Round,' Media Release, 28 March 2008.

Philanthropic Endowment

The Academy welcomes the Government's continuing support for the Higher Education Endowment Fund (HEEF) to:

- advance the development of a world-class Australian higher education sector, by providing ongoing support for strategically-focused investments in capital expenditure and research facilities; and
- encourage a culture of philanthropic investment in Australian higher education institutions.[*]

The Academy understands that the HEEF Advisory Board considers that, for the time being, the second objective will need to take second place to the first.

There is, notwithstanding, increasing evidence within Australia of interest in philanthropy in areas relevant to innovation, including in the humanities and the arts, and the Academy is active in this field. It is working towards the development of a national Endowment for the Humanities. It was a key partner in the Symposium on Philanthropy and the Humanities held at the University of Melbourne on 23-24 September 2007, and is involved in planning for future events. Relevant Commonwealth public servants participated in that event, and continuing Government engagement in future discussions will be warmly welcomed.

The Academy believes there is merit in the Review considering how government might encourage philanthropy in the broad area of innovation, knowledge and creativity to strengthen the National Innovation System. In line with the previous discussion and recommendations in this submission, the Academy recommends that whatever process the Government adopts for supporting or encouraging philanthropy, the approach be one that is genuinely multi-disciplinary and multi-sectoral.

Recommendation 10

That Government engage with the national discussion that is occurring to support and encourage philanthropy across a broad range of areas relating to knowledge and innovation, using a multi-disciplinary, multi-sectoral approach.

Establish National Research Institutes in the Humanities and Social Sciences

The Academy proposes the establishment of national research institutes in the humanities and social sciences to complement the matrix of existing research institutions in the natural and technical sciences, including the medical research institutes and the publicly funded research agencies. The Academy envisages that these institutes would cooperate with universities, but would sit outside the university system (and not to be located administratively or financially within any one university).

[*] HEEF Advisory Board, Draft Program Guidelines for the 2009 Funding Round, March 2008, p. 1.

The Academy considers this proposal is potentially consonant with the sentiment motivating the 2020 Summit proposal for a national institute for innovation and creativity.[*] We would welcome further discussion with the Review and perhaps with key 2020 Summit participants on a proposal in this area.

Recommendation 11

That the Government establish key national research institutes in the humanities and social sciences.

[*] Australia 2020 Summit, Initial Summit Report, 20 April 2008. p. 7.

7. Assess the appropriateness, effectiveness and efficiency of the Cooperative Research Centres (CRC) Program and make recommendations to improve innovation outcomes

The Academy notes that the CRC program is centred on the six 'CRC sectors' of Manufacturing Technology, Information and Communication Technology, Mining and Energy, Agriculture and Rural-based Manufacturing, Environment, and Medical Science and Technology. As a result, while there is some very limited humanities participation in existing CRCs, there are no Cooperative Research Centres in the arts or the humanities, nor in industries with which they form productive partnerships.

As we have remarked above, this arrangement is arbitrary and inefficient. It is not at all clear that only these six sectors are able to deliver benefits for Australia through

- the application of CRC generated knowledge and intellectual property
- increased access to international knowledge networks
- enhanced skill formation, particularly through the development of highly skilled and industry ready postgraduates.[*]

Yet these sectors selectively enjoy support and development through this inter-sectoral collaborative scheme by virtue of a selection process that operates in part by the exclusion of industries and activities without regard to merit or national benefit.

To the detriment of the National Innovation System, it would appear that the CRC Program is founded on a conception of the relationship between academic disciplines and industry which is of limited applicability in the arts and humanities sector, and which ignores the social, creative and cultural aspects of the innovation process.

Accordingly, the Academy recommends that either: the CRC program be expanded to embrace other industry sectors, as well as other disciplines' potential to interact with industry (such as humanities disciplines and TV/film industries); or else a parallel scheme be established which is structured to suit the different relationships between researchers and industry in the humanities sector.

Recommendation 12

That either the CRC Program be expanded, or else a parallel scheme be established, to support collaborative innovation in other industries and with other disciplines, such as the arts and the humanities.

[*] CRC Program website: https://www.crc.gov.au/Information/default.aspx

Recommendations

Recommendation 1

That the principles underpinning the role and participation of the public sector in innovation include:
(a) recognition of the full range of innovative activity taking place in the National Innovation System, regardless of industry sector or research discipline;
(b) the need to ensure that all public policy objectives, including cultural, social, heritage and artistic objectives, are able to benefit from innovation activity; and
(c) the centrality of integrated, multi-disciplinary, problem-based approaches to innovation which foster diversity and creativity.

Recommendation 2

That the four existing National Research Priorities be rewritten to better integrate the actual and potential contributions of the humanities and social sciences.

Recommendation 3

That a fifth National Research Priority be enunciated to include the important social and cultural research involved in knowing ourselves, our region and our world.

Recommendation 4

That general support programs for innovation (such as the R&D tax concession) do not exclude fields of research and areas of knowledge but allow all proposals to compete on their merits and intended outcomes.

Recommendation 5

That the Government make appointments to advisory bodies that reflect the full range of activity in the innovation system, to ensure the full breadth of expertise is available to decision-makers.

Recommendation 6

That the Commonwealth Government develop a comprehensive national languages policy featuring achievable targets and a comprehensive languages education program, to support Australia's National Innovation System and other key Government objectives.

Recommendation 7

That there be a national review of teacher training and the disciplines which assesses the current levels of training within disciplines and the continuities between school and university, and identifies means to address any deficiencies found.

Recommendation 8

That S. 73B(2C)(f) of the Income Tax Assessment Act 1936 be repealed, and that eligibility standards for all innovation programs apply evenly across all types of research and development activity.

Recommendation 9

That the Government liaise with the four Learned Academies and the National Academies Forum with a view to strengthening the contribution of each Learned Academy individually and collectively to the National Innovation System.

Recommendation 10

That Government engage with the national discussion that is occurring to support and encourage philanthropy across a broad range of areas relating to knowledge and innovation, using a multi-disciplinary, multi-sectoral approach.

Recommendation 11

That the Government establish key national research institutes in the humanities and social sciences.

Recommendation 12

That either the CRC Program be expanded, or else a parallel scheme be established, to support collaborative innovation in other industries and with other disciplines, such as the arts and the humanities.

References

(note: all web documents were accessed in April 2008)

Australia 2020 Summit, *Initial Summit Report*, 20 April 2008: see http://www.australia2020.gov.au/docs/2020_Summit_initial_report.pdf

Carr, Kim, 'Making Innovation a Way of Life,' Speech to the Committee for the Economic Development of Australia's National Innovation Forum, Sydney, 1 April 2008: see http://minister.innovation.gov.au/SenatortheHonKimCarr/Pages/MAKINGINNOVATIONAWAYOFLIFE.aspx

----, 'Nuclear and Nanotech Head New Grant Round,' Media Release, 28 March 2008: see http://minister.innovation.gov.au/SenatortheHonKimCarr/Pages/NUCLEARANDNANOTECHHEADNEWGRANTROUND.aspx

HEEF Advisory Board, *Draft Program Guidelines for the 2009 Funding Round*, March 2008: see http://www.heef.dest.gov.au/NR/rdonlyres/C4B79CD1-5BC2-4398-B287-6D698D7426FB/20418/DraftGuidelinesFinal.pdf

Howard Partners, *Innovation, Creativity and Leadership: Report of a Study of the ACT Innovation System*, Canberra 2008: see: http://www.business.act.gov.au/__data/assets/pdf_file/0008/97415/Innovation_Report.pdf

National Languages Summit, 'Communiqué,' June 2007: see http://www.humanities.org.au/Resources/Downloads/Policy/LIC2007-CommuniqueJun2007.pdf

Organisation for Economic Co-operation and Development, *Frascati Manual 2002: Proposed Standard Practice for Surveys on Research and Experimental Development*, Paris: see http://europa.eu.int/estatref/info/sdds/de/rd/rd_frascati_manual_2002.pdf

Organisation for Economic Co-operation and Development and the Statistical Office of the European Communities, *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd edition, 2005: see http://www.oecd.org/document/23/0,2340,en_2649_37417_35595607_1_1_1_37417,00.html

Prime Minister's Science Engineering and Innovation Council, *The Role of Creativity in the Innovation Economy*, December 2005: see http://www.dest.gov.au/NR/rdonlyres/B1EF82EF-08D5-427E-B7E4-69D41C61D495/8625/finalPMSEICReport_WEBversion.pdf

Appendix A

Innovation literature review

The innovation literature is placing increasing emphasis on the importance of factors other than science, technology and engineering in innovation.

1. In 2005 the Prime Minister's Science, Engineering and Innovation Council received "The Role of Creativity in the Innovation Economy", a report prepared by a Working Group of the Council chaired by Professor Iain McCalman FAHA. The report identified three recommendations to foster a culture of Australian innovation and creativity. The report urged the adoption of new innovation policies that recognised the central role of creativity and the creative industries and the realization of Australia's full creative and innovation potential by undertaking measures to promote broader cross-disciplinary and cross-sectoral teaching and research.[*]

2. The Oslo Manual (the guide used in OECD and EU countries to define and measure innovation activity) previously emphasised "technological product and process (TPP) innovation" in economic development. The current edition of the Oslo Manual recognises that the TPP concept does not adequately capture innovation in the services sector, and has expanded the concept of innovation to incorporate marketing and organisational innovation.[†]

3. A recent review of the literature prepared as part of a review of innovation in the Australian Capital Territory (the Howard Report) concluded that:

> Creativity is linked to innovation through design as well as research, teaching and experimentation in art and creative practices. Cultural institutions, such as libraries, galleries and museums also have a role in the 'arts and creative practices system.'[‡]

The Howard Report makes similar points in many other contexts: it emphasises the importance of understanding the social context in which innovation occurs (p.18); the vital contribution that social networks (a form of social capital) make to innovative activity, contrasted with the limited understanding of how such networks emerge and operate (p.23); much contemporary innovation is based on design and creativity that draws on knowledge, talent and expertise in what the report refers to as the 'arts and creative practices domain' (p.23); and creativity can now be viewed as both art and commercial activity (p.60).

4. It should also be remembered that the OECD has for many decades incorporated the humanities and social sciences in the definition of R&D recommended for use in its member countries' national surveys:

---

[*] Prime Minister's Science Engineering and Innovation Council, *The Role of Creativity in the Innovation Economy*, December 2005.

[†] Organisation for Economic Co-operation and Development and the Statistical Office of the European Communities, *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd edition, 2005, Foreword, p. 3.

[‡] Howard Partners, *Innovation, Creativity and Leadership: Report of a Study of the ACT Innovation System*, Canberra 2008, p. 9.

> Research and experimental development (R&D) comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.[*]

The document from which this quotation is taken (the Frascati Manual) contains several references to the increasing role of software development, the social sciences and humanities, and service industries, in national surveys of R&D (see, for example, pp 19 and 46-51).

[*] OECD, *Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development*, Paris 2002, p. 30.

Appendix B

Communiqué
National Languages Summit
National Press Club
Canberra
Thursday 7 June 2007

The National Languages Summit was convened by the Australian Academy of the Humanities and the Group of Eight Universities as a strategic contribution to a developing national discussion on the urgent need for policy leadership and action on Australia's language capability.

It brought together over 150 leaders from across the Australian community with an interest and expertise in language learning, including teachers, academics, public servants, the media, members of the defence forces, and representatives of industry and ethnic communities.

The Summit agrees that the development of Australia's language capability is firmly and urgently in our national interest. Australia needs a comprehensive, coordinated languages plan to develop this capability in a sensible fashion. This policy should be broad-based and should involve a range of languages including Australian Indigenous languages, as well as Asian, Middle-Eastern and European languages.

Languages should be taught for all the well-established reasons: cultural insight, intellectual development, curiosity and exposure to literature and history. These are as important and relevant today as ever. Language education can have a substantial transformative effect on students – particularly children – who develop a confidence in negotiating life in a diverse global community. It is a powerful tool for social cohesion through the positive effects of language learning on cultural understanding.

Linguistic and cultural proficiency is also central to any trans-cultural engagement. There is a range of pragmatic instrumental imperatives for change, centred around the necessity for ordinary Australians to communicate effectively with people from all over the world – both here and overseas. These skills are not the preserve of the specialist any longer, but are increasingly required of all of us. They are crucial to the further development of trade, national security, tourism and cultural diplomacy, and they underpin our role as a regional power at times of strife and disaster.

Our national deficit in language capability is Australia's great unrecognised skills shortage – and the one most directly relevant to our competitiveness, security, prosperity and social harmony in an increasingly global environment.

The present state of language education and proficiency in Australia is seriously inadequate for our current and emerging needs, and far behind comparable levels in our peers and competitors. The size of this gap and the work and time required to close it has led some to describe the situation as a crisis.

But while we must act decisively and quickly, it is important that our response is not devised and implemented in a crisis mode. We need a national, long-term commitment to a manifest of considered, appropriate measures.

The Summit recognises those measures that are already in place to promote

language education, and value these initiatives. But we see a clear gap between rhetoric and reality; between intention and effect.

We believe the wider community wants bipartisan support at all levels of government for coordinated measures to develop Australia's language capability.

We recognise that this is a genuinely national issue, requiring action by everyone, not only governments. The most effective measures will be those that enlist partnerships between governments, teachers, industry, community groups, parents and students. However, we do recognise the special role of governments in providing leadership and strategic direction.

The Summit calls on federal, state and territory governments to develop an agreed national languages capability target for a significant majority of Australians to attain second-language proficiency by 2020.

All Australian students should study languages for most of their compulsory schooling. Languages teaching in schools should be conducted by subject specialists with appropriate training and meaningful career paths.

Second language study should be much more common at university level, and particular emphasis should be placed on language teacher training and research training. Immersion education should be more widely available at all levels, and articulation between educational sectors should be more streamlined.

Australia has a rich supply of linguistic diversity that can be tapped and built upon to achieve these aims. Strategies should promote links with communities of speakers as custodians and conduits of their native languages.

Research shows that proficiency in a second language is an aid to English language and literacy, and not a trade-off. It also supports better academic performance in other subjects, especially music, mathematics and logic.

Strategies must be tailored to suit the specific requirements of particular language instruction programmes, from mass education in mainstream languages to instruction in niche languages of specific strategic, cultural and economic interest.

Programmes to support Indigenous languages of Australia can be paired with English teaching, rather than act in competition with them. Achieving a base-line proficiency in the languages of our region should also be a goal of a strategic languages policy.

The Summit holds that it is time to get serious about Australia's language capability. It is time to significantly increase our commitment to expanding the language skills of our citizens. It is time to rebuild our national language-teaching capacity so that a long-term improvement in our language-*speaking* capability will be sustained. It is time to recognise that a relatively modest investment in dollars and personal effort will reap significant gains in the short-term, and form the foundation for successful global and regional interactions in the long-term.