



## The Australian Academy of the Humanities

### Submission to the Productivity Commission Research Study on *Public Support for Science and Innovation*

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 a Study of the impact of public support in this broad area. Our submission raises several key issues the Academy believes are important for the Commission to consider in its investigations.

In summary, our position is that the humanities and creative arts are integral to the successful operation of Australia's research and innovation activities, yet they are at present exploited and supported well below optimal levels, both in terms of their potential contribution to the national interest and in comparison with competitor nations.

The humanities and creative arts play a key role in Australia's research and innovation enterprise:

- The humanities and creative arts are integral to the national innovation system, and this study must take account of that fact if it is to make accurate, relevant and useful findings.
- The humanities and creative arts constitute a vital portion of the work done in the Australian research sector.
- The humanities and creative arts contribute to the innovation system in four key areas:
  - through direct links with science and technology;
  - problem-solving on cultural, social, economic and environmental issues which have direct economic impacts;
  - through provision of content and context for the creative industries; and
  - by developing creative and critical thinking skills through education.
- The humanities and creative arts contribute to the national interest through research by developing our knowledge of the unique Australian society and culture, and by expanding our strategic knowledge of the societies and cultures of key strategic interest to Australia, such as our near neighbours, our trading partners, and the nations of historical importance of Australia.

However, the humanities and creative arts are currently under-utilised, under-resourced and marginally regarded, to the detriment of the national interest:

- Lack of public recognition of and support for contributions of the humanities and creative arts to the national innovation system is an impediment to the system as a whole.

- The exclusion of humanities and creative arts research from R&D tax concessions is an impediment to the involvement of the humanities and creative arts in the national innovation system.
- Current measures and benchmarking of the contributions of the humanities and creative arts to national innovation are inadequate and as such represent an impediment to the system as a whole.
- Better understanding of the value of humanities and creative arts research, and subsequently better measures are critical for future models for public support of national innovation.

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The most immediate illustration of this tendency to disregard the contributions – actual as well as potential – of the humanities and creative arts is their near-total exclusion from the terms of reference of this Study. The Academy is concerned that this will compromise the effectiveness of the Commission’s Research Study. The findings will be unable to comprehensively address the needs of the innovation system or the national research enterprise while the humanities and creative arts are excluded from the concept of ‘science’ ‘except to the extent they are relevant to innovation’.

Unlike most OECD countries, Australia adopts a vigorously policed definition of science that is restricted to the physical and natural sciences and their applications through technology and engineering. European nations tend to understand the term ‘science’ in its Latin sense, taking into account the contribution of all research activity regardless of disciplinary cluster. Even other English-speaking nations such as the USA, Canada and the UK – who use the word in a similar way to us – do not allow a linguistic convention to impede their national research and innovation interests, and have significant programmes designed to capture the contributions of their humanities and creative arts sectors (along with the social sciences).

Similarly, it is our position that the humanities and creative arts are inherently and deeply implicated in the innovation system, yet the explicit statement of exclusion makes it clear that the humanities and creative arts will be permitted to plead a handmaiden case at best. This despite significant industry interest in harnessing R&D expertise from wherever a useful contribution can be made; despite the significant global trends towards multidisciplinary, problem-based approaches to innovation and even basic research; and despite the manifest success of the humanities and creative arts in providing key components of successful product and process design from inception through to market and/or application.

The notion that the humanities and creative arts can be safely excluded from such a Study with no harm to its validity is based on an unexamined, contestable and (in our view) unfounded premise: that the humanities and creative arts make no discernable difference to the effectiveness of the Australian research enterprise or the national innovation system. The Academy contests the existence of any hard empirical evidence supporting this exclusion of its disciplines from interest; and suggests that, far from being a rigorous (if unpalatable) artefact of hard evidence into what is worth looking at and what can be safely ignored, this decision to not bother with the humanities and creative arts is instead merely the product of a facile bias.

To this extent, then, the Study's design methodology is flawed in incorporating this arbitrary exclusion (although we recognise, of course, that this constraint may well have been in place prior to the Productivity Commission's own design phase). Proceeding on this narrow basis, the Study cannot help but produce a compromised result: with this blind spot in place, the Study can only generate an unbalanced and incomplete picture of how the innovation system in Australia works, of the impact of public support for science and innovation, and of the significant impediments to the future development of a healthy national innovation system.

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We have dwelt at some length upon the problem of this decision to exclude or marginalise the role of the humanities and creative arts for the purposes of the present Study. This is because it exemplifies the core problem we wish to address in discussing the effective and efficient functioning of the innovation system and of the national research enterprise (called 'science' in your Study).

The Commissioner will be unsurprised by this point to discover that the major aspect of these two ecologies that we wish to highlight is their systematic exclusion or marginalisation from interest, regard, support and uptake of the humanities and the creative arts. It is our experience that these impediments are widespread and systemic, but also that they are largely based on simple ignorance of the actual and potential contribution of our sector. It is our submission that rectifying this blindness to the role of the humanities and creative arts is perhaps the single most effective measure that could be implemented in improving the national research and innovation system. Furthermore, it would not even be very expensive: much research activity in these disciplines is substantially cheaper than in the sciences, but even at these relatively low costs, they are desperately under-resourced and thus unable to deliver the significant opportunities and savings that their proper support would permit.

Evidence to support the assertion of unrecognised actual or potential contribution may be found in several sources. The important role of the humanities in furthering the national interest through culture, security, trade and social cohesion is outlined in *Knowing Ourselves and Others: the Humanities in Australia into the 21st Century*, an Academy report commissioned by the Commonwealth. The case for Australian investment in the humanities, creative arts and social sciences, including a comparative analysis of the success of comparable investments in other countries, is made by Iain McCalman in *Making Culture Bloom*, the transcript of his National Press Club speech in 2004.

For an examination of the role that the humanities and creative arts play in collaboration with science and technology, we refer the Commission to a forthcoming study undertaken by the Council for the Humanities, Arts and Social Sciences (CHASS) on the relationships between the Humanities, Arts and Social Sciences (HASS) and the Science, Technology, Engineering and Medical (STEM) sectors. Preliminary findings of this study are available and include a number of detailed case studies that demonstrate the breadth, depth and complexity of HASS-STEM interactions. This study also includes a comprehensive literature review of major local and international studies relating to collaborations between the HASS and STEM sectors.

The humanities and creative arts are also central to the areas of enquiry targeted by the National Research Priorities: an environmentally sustainable Australia; promoting and maintaining good health; frontier technologies for building and transforming Australian

industries; and Safeguarding Australia. These are all fundamentally social and cultural problems, with scientific and technical aspects, not the technical and scientific problems with a human veneer that some imagine them to be. It is the human element that is central to the nature of the problems experienced, the questions posed, the contexts in which they are understood, the solutions found, and the application of those solutions. For further discussion we would refer the Commission to *The Humanities and Australia's National Research Priorities* (2003), a report prepared by the Academy for the Department of Education, Science and Training in which eminent humanities scholars from a range of disciplines demonstrate the centrality of humanities research to the National Research Priorities. This document also considers the woeful record of Australian industry in scientific uptake. The report argues that this is ultimately a social and historical issue. Our national innovation system could be far better served by public support of research that addresses the social and historical aspects of innovation than it is by funding strictly scientific and technological research at the expense of humanistic research.

For an analysis of collaboration between industry and institutionally-embedded humanities and creative arts scholars, we refer the Commission to another study, *Attraction of Strangers: Partnerships in Humanities Research* (2004). This report is the outcome of a project funded by the Australian Research Council and administered by this Academy, and conducted by Professor Ien Ang and colleagues from the University of Western Sydney. It which details recent case studies of links made between humanities researchers and industry partners to address economic, social and environmental problems under the ARC Linkage Projects grants program.

An entire sector of the economy, the creative industries, is intimately dependent upon the humanities and creative arts. The creative economy is a major driver of innovation and contributes very substantially to the national prosperity. Current international trends demonstrate that the potential exists for far greater returns than our current levels of investment are able to realise. The humanities and creative arts provide the all-important content and technical know-how that fuel the creative industries, as well as critical analysis of the cultural contexts in which the creative industries operate. For further discussion of the role of the creative industries and the policy implications of decisions to invest adequately (or not) in them, we would refer the Commission to two works by Stuart Cunningham, *From Cultural to Creative Industries: Theory, Industry, and Policy Implications* and *What price a creative economy?*

More broadly, creativity is an essential component of scientific discovery and innovation. In turn, the humanities and creative arts are essential components of an education and research culture that nurtures, encourages and rewards creativity. The creativity of scientific research can be enhanced not only through education that removes the artificial and unhelpful divide between the arts and sciences, but also by linking scientists with other kinds of creative thinkers in the course of undertaking their research. These issues are explored in a recent report, *Imagine Australia: The Role of Creativity in the Innovation Economy*, by the Prime Minister's Science, Engineering and Innovation Council (PMSEIC) working group on Creativity and Innovation. *Imagine Australia* argues that creativity is critical for innovation, and that 'a robust national innovation system requires a cocktail of creative talent drawn from both the traditional science and technology disciplines, as well as from the humanities, arts and social sciences.'

Having laid out the case for the positive impact of the humanities and creative arts, it is necessary to outline some instances of the disadvantageous systematic exclusion or marginalisation of the humanities and creative arts. In most of these examples, the blanket exclusion of these disciplines (usually alongside the social sciences) is made regardless of need or potential contribution, and no scope exists for arguing the merits of the case, no matter how beneficial to the national interest. In the other examples, there is no categorical exclusion, but the marginalisation is so effective that even the quite modest needs of the humanities and creative arts are not considered.

It is well known that the current rates of private sector R&D investment in Australia are lamentably low. The R&D tax Concession Scheme is designed to boost these levels, or at least help prevent them from falling still lower. Despite the contribution of the creative industries both directly through the creative economy and indirectly and a component of industry case-based R&D, this incentive is not available for work in the humanities and creative arts. Current statute rules these fields ineligible for the R&D tax concession by definition (along with the social sciences), regardless of the economic and other merits of any given case. This means that, for example, a company wishing to develop an innovative games package will gain tax incentives for work on the IT component but not for the all-important visuals, story-boards or sound effects. The Apple iPod – which dominates the MP3 market significantly on the strength of its design innovation – would be valued in the Australian R&D regime solely for its technical advances (and while these are undoubtedly significant, they are not the main reason that this product has outgunned all of the other MP3 players on the market, including some that are more technically advanced).

Given Australia's relative fluency in the creative industries, this impediment hampers our ability to harness the strengths available. The resultant global competitive disadvantage renders Australia vulnerable to a flow of artistic talent off-shore, or to the exploitation by foreign concerns of our local talent. The former Chief Scientist was fond of citing the example of Nokia as a technology success story, but failed to recognise that the success of the Finnish company was significantly derived from its commitment to the arts- and humanities-based research disciplines as a key element of its development programs (in concert with, but not subordinated to, technical research). It is through these innovations that Nokia was able to develop attractively designed, ergonomic, human-oriented products that stood out in the global marketplace of clunky gizmos designed by techies without regard to user needs. If, as Dr Batterham liked to say, we should be positioning ourselves to produce the next Nokia (or iPod, for that matter), we should create incentives to bring all of the talent necessary into the R&D picture, and not exclude good work by some arbitrary definitional provision.

This impediment could be removed without harm to the rigour of the Scheme simply by replacing the emphasis on scientific processes and disciplines in the *Income Tax Assessment Act 1936* [in Section 73B(2B)(b)(ii)] with an emphasis on expertise and recognised methodologies; and by removing the clause [Section 73B(2C)(f)] explicitly ruling out these disciplines and professions. The Academy recognises that the Productivity Commission may well take a dim view of tax concessions overall, but it is difficult to see the benefit in excluding one form of R&D for eligibility for arbitrary disciplinary reasons.

Another less dramatic (but perhaps more commonplace and therefore illustrative) example of a systemic exclusion of the humanities and creative arts is the case of a recent call for

proposals for funding under the joint French-Australian Science and Technology programme. This programme is designed to ‘promote and support scientific and technological cooperation between Australian and French researchers in both public and private sectors,’ by providing funding for projects and workshops. The humanities and social sciences are explicitly excluded (presumably along with the creative arts, which were not even mentioned). Scholars in the humanities report having received funding under this programme in the past for practical, useful projects. The Academy has received informal intelligence that this narrowing of the ambit and explicit exclusion of the humanities and social sciences occurred at the insistence of the Australian end, and was agreed to reluctantly by the French who do not usually make this distinction that unhelpfully reinscribes the discredited ‘two cultures’ disciplinary structure. While the programme nominated five areas of research that were to receive priority funding in the 2005 round, it is noteworthy that researchers working in fields of science and technology outside those priority areas were invited to still make their cases for funding outside those priority areas, while anyone working the humanities were explicitly advised not to bother.

An instance of the non-categorical form of exclusion is the difficulty the humanities and creative arts are having in making a case for the development of a searchable, accessible digital resource of Australian culture, for use as a rich research archive for humanities and creative arts scholars (as well as for school students and the general public). This could be supplemented and interoperated with similar resources on non-Australian cultures that reflect our domestic research strengths (especially in Pacific and Asian studies). These resources would constitute the single most effective investment in research infrastructure in the humanities and creative arts that Australia could make. All of the nations with whom we routinely compare ourselves have made similar investments, particularly in rendering accessible to their citizens the artefacts of their own culture, but also in supporting their research efforts in understanding other cultures (whether for security, trade or cultural reasons). Yet in Australia, due to ignorance about how research is done in the humanities and creative arts (and a profound lack of interest in finding out) these proposals are dismissed as ‘content’ and therefore not eligible for research infrastructure funding. These resources are content only in the same way that the chemicals used in chemistry labs are content: they constitute the raw material that scholars dig through, refine and experiment with during their research. Yet a systemic blindness to the business of the humanities and creative arts on the part of the advisory bodies that recommend the disposition of funding (almost entirely comprised of researchers in the science and technology sector) means that a significant portion of the Australian innovation-ready research capacity remains under-utilised or entirely untapped.

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Finally, a note on the adequacy of quantifiable empirical findings. Many of the beneficial outcomes of activity in the humanities and creative arts are not readily defined, counted or attributable using current methods devised for application to tracing the impact and effectiveness of science and technology. Other beneficial outcomes of work in these fields are not captured in current data simply because nobody bothered to look, for reasons outlined above (and as exemplified by the terms of reference of the present Study). Despite the difficulty of producing easily quantifiable measures, it is important for rigorous studies to find ways to produce appropriate and effective analyses rather than simply disregard or exclude these disciplines.

At present, very little macro and micro-economic benefit analysis has been performed of the contributions of the humanities and creative arts to national innovation. This is indicative not of the marginal nature of humanities and creative arts activity to Australian research and innovation (and certainly nobody is in a position to make such an argument with any substance, in the absence of such analyses), but instead is due to the difficulty of measuring the impact of humanities research in such terms. These problems and their consequences are extensively outlined in John Holden's work *Capturing Cultural Value* and in the various contributions of our sector to the RQF development process. We urge the Commission to address this issue in its study, for referral to future work in the field. This problem relates particularly to questions regarding measuring impact and benchmarking research. More generally, and perhaps importantly, a lack of knowledge and understanding of the nature and value of humanities and creative arts research among policy-makers as well as the general public is an impediment to the provision of support, through direct funding and the provision of infrastructure, which in turn is an impediment to our national innovation system as a whole.

We urge the Commission not to oversimplify its investigative procedures in its bid to produce economically quantifiable results. The humanities and creative arts make significant contributions to research and innovation, but measuring their impact, and subsequently the successes and failures of public support for humanities involvement in science and innovation, requires more complex and nuanced evaluative methods and frameworks than those the Commission has outlined in its issues paper. We urge the Commission to continue to refine its processes to take proper account of the integral role the humanities play and may increasingly play in the continuing development of our national innovation system. Acknowledging these difficulties is an important first step in devising a suite of appropriate measures for future analysis.

It would be a mistake for ongoing work in this area to continue to fail to account for the productivity, effectiveness, impact and social and cultural benefits of work in the humanities and creative arts. It will be necessary to begin looking at these fields in order to harvest data for analysis. It will be necessary to devise metrics that are able to capture the effect of these activities, which differ in character substantially from activities in the disciplines of science and technology. It is likely that substantial work on this has been done internationally, however. It will be necessary to use other methods to supplement metrics where the quantifiable measures are inadequate to describe the significant impact of the humanities and creative arts.

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In conclusion, the Academy would like to impress upon the Commission that the impact of public support for the humanities is significant, if under-recognised, but is also less than our capacity is able to provide were this support improved. Insufficient work has been done on identifying suitable measures that accurately trace the impact of the humanities. The systematic blindness to the contribution of the humanities and creative arts, with the accompanying definitive or tacit exclusion of eligibility for funding under a vast array of schemes, is in the Academy's view the single most significant impediment to the effective functioning of Australia's innovation system. Related to this, the overwhelming exclusion of humanities and creative arts researchers from participation in the policy- and decision-making

processes and from programme design, exacerbate these impediments. Opening up the many processes to include input from all those able to make useful contributions regardless of disciplinary origin would greatly assist the Australian innovation system to meet problems and take opportunities as they arise, without the impediment of absent expertise in humanities and creative arts areas. The broader social and environmental impact of public support for research and innovation would therefore be greatly enhanced by selecting the resources deployed based upon the issues at hand, not the departmental postal address of the usual suspects at the table.

Dr John Byron, Executive Director  
Sarah Howard, Project Officer