

THE HUMANITIES, CREATIVE  
ARTS, AND INTERNATIONAL  
INNOVATION AGENDAS

**M**odern debates about the place of the humanities, the values they espouse, and the insights they instill—their use, in short—go back to Matthew Arnold (1869), Thomas Carlyle (1833–34), and Cardinal Newman’s (1852) and Leavis’ (1945) ideas of the university. More recently, postmodern criticism (Belsey, 1980; Eagleton, 1983) called into question understandings about the relationship between the humanities and humanism (Fuery & Mansfield, 1997). The emergence of the so-called new humanities (Ruthven, 1992), with their stress on growth, dynamism, interdisciplinarity, and post-humanism, challenged the liberal arts tradition. Debate was further complicated by claims of “cultural policy studies” about the role of the humanities in higher education in the 1990s, and intensified in Australia by higher education reform. This was a debate about first principles defences of the humanities against what were presented as historically, rather than philosophically, grounded, non-humanistic accounts of the humanities (see Hunter, Meredyth, Smith, & Stokes, 1991). Stokes offered an account of the history of the university in Australia that stressed its alignment with national priorities and planning. Smith talked about the way normative interventions in schooling were crucial to embedding the influence of the humanities academy.

Later, Ian Hunter and Tony Coady and Seumas Miller exchanged Foucauldian and neo-Marxist analyses of the role of the humanities. Hunter (1992) opened with “the humanities without humanism,” to which Coady and Miller (1993) replied “the humanities without humans.” This time, the debate is different.

This time, the broad context is the relation of the humanities and creative arts to the innovation agenda and the knowledge economy, and responses to global trends in local contexts. It is about the humanities *and* the creative arts, a crucial but little interrogated connection that is assuming center stage for reasons that are the burden of this paper, but also because of the growth and integration of creative arts courses and staff into the university system over the last decade. The debate, therefore, is not about the humanities and creative arts as the *ding an sich*—the imponderable thing in itself. The current debate is empirical, it is evidence-based, and it is about a wider set of issues concerning the new knowledge economy. It is a debate that humanists and creatives are *joining*, not initiating, and one to which this chapter seeks to contribute. In so doing, it seeks to answer the following questions: What is wrong with the standard innovation and research and development (R&D) agendas in a knowledge-based economy? Why should innovation and R&D agendas include the humanities and creative arts disciplines? How are innovation and R&D policies evolving internationally and how do they show a way ahead?

*A Short Genealogy of the Knowledge-Based Economy,  
Innovation, and R&D Agendas*

The new macro-focus on the knowledge-based economy and innovation policies has been around in some form or other for a long time, certainly since the information society discussions of the 1960s and 1970s. Theorists of post-industrial society (Bell, 1976) and economists of knowledge (Machlup, 1962) and information (Porat, 1977) identified information management and knowledge generation—previously notional subdivisions of the service or tertiary industry sector—as separate economic sectors, the quaternary and quinary respectively. More recently, the focus on knowledge and innovation has been influenced by New Growth theory in economics, which points to the limitations for wealth creation of only micro-economic efficiency gains and liberalization strategies (Arthur, 1997; Romer 1994, 1995).

As a result, many governments are now attempting to advance knowledge-based economy models. This means a number of things. It implies a renewed interventionary role for the state after decades of neo-liberal small government; prioritization of innovation and R&D-driven industries; intensive re-skilling and education of the population; and a focus on universalizing the

benefits of connectivity through mass ICT literacy upgrades. Every OECD economy, large or small—even emerging economies, for instance Malaysia—can try to play this game. This is because a knowledge-based economy is not based on old-style comparative factor advantages, but on competitive advantage, that is, what can be constructed out of integrated labor force, education, technology, and investment strategies. Japan, Singapore, and Finland are examples of competitive knowledge-based economies.

However, the humanities, creative arts, and social sciences as disciplinary tributaries of the knowledge economy—and the activities they typically support through education, training, and research—do not as a rule figure in national R&D and innovation strategies. The R&D effort in the United States, for instance, continues to be dominated by science-engineering-technology (SET) and particularly defense SET. In Europe, innovation and R&D policy, for the most part, remains focused on big science and technology. The exception is probably digital content creation, which is beginning to slip in as part of “technology,” both at the European Union and member state level (see CORDIS, n.d.). However, this is not currently happening through processes of explicit policy reconsideration and there are very few high-level policy documents, either on R&D or on innovation more broadly, that explicitly mention R&D for the creative industries or humanities. While there is the usual range of industry development support for creative industries (soft loans, grants, development of networks), recognition of the more particular R&D claims of humanities and creative skills and services more broadly as intermediate input into a wider range of activities, while supported in rhetoric, is not yet showing up in policy.

When the humanities and creative arts do appear in policy, it is often as a last minute concession to dogged lobbying, and they are usually damned with faint praise or condescended to with benign indifference. This has been evident in recent Australian policy making. The Chief Scientist’s report *The Chance to Change* (Batterham, 2000) refers to the importance of creativity but the applications of creativity are all in science-engineering-technology. This report played a key role in the policy trajectory leading to the current federal government’s innovation strategy, *Backing Australia’s Ability* (Commonwealth of Australia, 2001) which, in the words of past Academy of the Humanities President Malcolm Gillies, is an “old-fashioned research=science document.” Thus far, the process of developing a set of national research priorities has been similarly biased towards science and technology, although originally conceived with the view to creating priorities that were more inclusive than the very narrow set of four new science priorities required by the government in the Australian Research Council’s programs in early 2001 (nanotechnology, photonics, genomics/phenomics, and complex systems). The release of

*Developing National Research Priorities: An Issues Paper* (DEST, 2002) in May 2002 offered a sliver of a promise of integration between humanities and social sciences and science and technology. It stated the intention that there would be a second round of priority setting addressed to the humanities and social sciences. But the reason given for prioritizing science and technology in the first round was simply that 75 per cent of the country's outlays in R&D go to science and technology. As of the time of publication, the second round of priority setting had not been scheduled, although a somewhat more inclusive set of priorities was announced in December 2002. I discuss these developments later in the chapter, as they take their place within the broader evolution of R&D policies internationally.

*Why Should the Humanities and Creative Arts Disciplines  
Be Included in Innovation/R&D Agendas?*

"Our lives would be unimaginable without science" (Batterham, 2000, p. 9). It is tempting to counter such slogans and Stephen Soderbergh's statement on accepting his Oscar for directing *Traffic* in 2002 springs to mind: "Without art, life on this planet would be unendurable." However, we need to go beyond sloganeering and develop more nuanced and less polarized responses to the knowledge economy, responses based on a more complex picture of the sources of innovation and wealth creation. Arguably one of the most succinct of this type of response is found in the review of the learned academies commissioned by the Australian Department of Education, Science and Training:

These disciplines [humanities and social sciences] provide the organisational, management, legal, accounting and marketing knowledge bases that are critical to successful innovation. They are the source of many of our insights into the human condition broadly, and to our understanding and managing the consequences of moving to a knowledge-based economy. (Blainey & Maloney, 2001, online)

In this chapter, however, I want to stress a more specific but still quite inclusive account that focuses not on the way humanities, creative arts, and social sciences analyze and manage the knowledge-based economy, but on their central role *in* it.

This is not to say that the creative industries and arts or humanities are co-terminous. Indeed, their conflation has meant that policy recommendations for advancing the creative industries tend to be residual at best, the afterthought recompense for university humanities and social sciences when, in-

stead, these industries should be foregrounded in policy. This, after all, is the sector that will deliver the content essential for next generation information and communication technology (ICT) sector growth, one of the five key knowledge-based economy hotspots.<sup>1</sup> Ironically, it is by distinguishing the creative industries from the creative arts and humanities that we can clarify the basis of the contribution of humanities and creative arts to innovation and R&D agendas. Creative production and cultural consumption are an integral part of the new economy, as are the disciplines that educate, train, and research these activities.

Creative production is not relegated to a residual position or marginal status in the new economy. Sociologists Scott Lash and John Urry (1994) and business analyst John Howkins (2001) claim that creative production has become the model for new economy business practices such as outsourcing, the temporary company, the "producer" model of project management, and just-in-time teams. Rifkin (2000, pp. 163–164) predicts that cultural production will ascend to the first tier of economic life, with information and services moving to the second tier, manufacturing to the third tier, and agriculture to the fourth tier. Worldwide, the creative industries sector has been among the fastest growing sectors of the global economy. Analysts and analyses, including the OECD (1998), the United Kingdom government's Creative Industries Task Force (CITF, 2001), Rifkin (2000), and Howkins (2001), point to the crucial role they play in the new economy, with growth rates better than twice those of advanced economies as a whole. Entertainment has displaced defense in the U.S. as the driver of new technology take-up, and has overtaken defense and aerospace as the biggest sector of the U.S. economy (Rifkin, 2000, p. 161).

Yet most R&D priorities continue to reflect a science and technology led agenda at the expense of new economy imperatives for R&D in the content industries, broadly defined. The broad content industries (or "knowledge consumption services") sector derives from the applied social and creative disciplines (business, education, leisure and entertainment, media, and communications) and represents 25 per cent of the U.S. economy, whilst the new science sector (agricultural biotech, fiber, construction materials, energy, and pharmaceuticals), for example, accounts for only 15 per cent of the economy (Rifkin, 2000, p. 52). In fact, all advanced economies are consumption-driven—for example, 62 per cent of gross domestic product (GDP) in the United States and 60 per cent in Australia (see Hearn, Mandeville, & Anthony, 1998)—and the social technologies that manage consumption all derive from the social and creative disciplines. In Australia, these industries or enterprises are currently valued at \$25 billion per annum—as much as the residential construction industry—and growing rapidly. In high-growth areas, like digital content and applications, they are growing at twice the rate of the overall economy. Many

Australians are involved in the creative industries, ranging from hobbyists to full-time employees and small businesspeople: 2.5 million say they work in these areas, and of those about 900,000 are paid for it.

We can no longer afford to understand the social and creative disciplines as commercially irrelevant, merely “civilizing” activities. Instead, they must be recognized as one of the vanguards of the new economy. Research and development strategies must work to catch the emerging wave of innovation needed to meet demand for content creation in entertainment, education, and health information, and to build and exploit universal networked broadband architectures in strategic partnerships with industry.

The crucial point that establishes the indivisibility of the humanities and creative arts is that the knowledge economy requires both *research* and *development*, and that the contexts, meanings, and effects of *cultural consumption*, in Rifkin’s terms, could be as important for these purposes as *creative production*. Major international content growth areas, such as online education, interactive television, multi-platform entertainment, computer games, web design for business-to-consumer applications, or virtual tourism and heritage, need *research* that seeks to understand how complex systems involving entertainment, information, education, technological literacy, integrated marketing, lifestyle and aspirational psychographics, and cultural capital interrelate. They also need *development* through trialing and prototyping supported by test beds and infrastructure provision in R&D-style laboratories. They need these in the context of ever-shortening innovation cycles and greater competition in rapidly expanding global markets.

### *Evolving Innovation and R&D Policies*

Innovation and R&D policies are evolving. There is a growing chorus worldwide that echoes—and provides the evidence base for—the arguments being made here. At the broadest level, there is now discussion of “third generation” innovation policy (Louis Lengrand & Associés et al., 2002, which the following few paragraphs follow). I would read these policy probes as differentiating amongst *innovation value chains*, *innovation systems*, and *innovation ecologies*.

The first generation of innovation policy—and this remains the dominant paradigm in most political/paymaster circles, if not cutting-edge scientific ones—is based on the idea of a linear process for the development of innovations. This process begins with basic knowledge breakthroughs courtesy of laboratory science and public funding of pure/basic research and moves through successive stages—seeding, pre-commercial testing, prototyping—until the new knowledge is built into commercial applications that diffuse via wide-

spread consumer and business adoption. The prototypical industry sectors that are regarded as exhibiting these characteristics are the biotechnology and ICT sectors.

Second generation policy recognizes the complex, iterative, and non-linear nature of innovation, with many feedback loops between the different stages of the process outlined in the first generation model, and seeks to bolster the process by emphasizing the importance of the systems and infrastructures that support innovation (see, for example, OECD, 1996). These systems have focused typically on research structures and programs, education, taxation, intellectual property rights, and competition policy, and they have typically been national in their focus, emanating as they do from national governments. Innovation policies worldwide are overwhelmingly a mix of first and second generation.

Third generation innovation thinking is based on ecological more than systems paradigms. The systems have to be brought into interaction with each other, and a deeper, longer-term as well as wider view needs to be taken. Innovation depends on organizational, social, economic, marketing, and other knowledge. There is an increasing recognition that tying, say, the education system to innovation does not necessarily address the root causes of a lack of innovativeness in that system as a whole. Each of the systems themselves need to be subject to innovation strategies, and brought into a closer relation to each other. Innovation needs to be more grassroots, at regional and sectoral levels as much as national.

To flesh this out a little, take an example from the SET heartland. To turn children on to science and mathematics—a goal of innovation policy in the United Kingdom, Australia, and elsewhere—rich, innovative, games-based products that are, yes, *entertaining*, will be needed. C.P. Snow’s “two cultures” (1964)—the gulf between science and humanities/arts—has to be bridged if the sentiments and strategies of the policy are to be realized. Another example might be how to address the structural weaknesses in skill base and business infrastructure, a preoccupation of, for example, the European Commission. These weaknesses point to the need to integrate entrepreneurialism into curricula and to foster collaborative networks and an export orientation. These values cannot be administered; they must be fostered and they relate to factors of deep culture that are not amenable to quick fix government programs. An export orientation might to a great degree depend on language and intercultural awareness. Entrepreneurialism may be best fostered outside formal schooling, not inside it.

Innovation frameworks set the broad parameters within which R&D strategies are developed. Let us now turn to evidence that such strategies are also evolving and beginning to contemplate the role of creative content.

Canada, New Zealand, Australia, and Taiwan are seeing evidence of creative industries being at least contemplated as an R&D sector and the principles for R&D intervention being compared with and not mapped onto cultural and industry intervention principles (see Cunningham, 2002, 2004). In Canada, there is some interesting work on stimulating Canada's broadband content industry through R&D strategies (Delvinia, 2001). In New Zealand, the Foundation for Research, Science and Technology is promulgating explicit R&D policy for the creative industries, identified as a national "Growth and Innovation Framework" priority along with biotechnology and ICT.

In Australia, the National Research Priorities (NRP) process requires publicly funded research bodies,<sup>2</sup> and therefore all the major research facilities and infrastructure at a national level, to take account of these priorities and report on their acquittal of them. One of them is "frontier technologies for building and transforming Australian industries." In this priority area there are key statements such as "research is needed to exploit the huge potential of the digital media industry" (DEST, 2003, online), and a number of examples of content applications such as e-commerce, multimedia, content generation, and imaging are mentioned for priority research and development. This emerging framework arguably provides fertile ground for the first cooperative research center in creative digital content and applications (the Australasian Centre for Interaction Design, with Queensland University of Technology Creative Industries as the lead site) awarded in 2002. Further changes to the NRP may see greater articulation of priorities amenable to humanities and creative arts.

In the context of a National Development Plan, Taiwan is proposing to adopt a more "humanistic and sustainable" approach to the development of "culturally creative industries," the goals of which are to nurture creative skills and promote the combination of culture with entrepreneurship to develop cultural industries. The plan explains that "This necessitates setting up an organization to promote culturally creative industries, cultivating creative manpower for art and design, molding an environment conducive to the development of creative industries and developing creative design and culture-based industries" (Taiwan, 2002, online). The plan includes investing in the more high-tech end of the creative industry spectrum, major new R&D investment, establishing specialized schools in such key areas as ICT design and digital content, and encouraging cooperation among industry, academia, and research institutions.

While the U.S. R&D effort continues to be dominated by science-engineering-technology and particularly defense SET, *Beyond Productivity* is a good example of a probe from the National Academy searching for purchase

for an investment strategy for the digital arts and design based on innovation (Mitchell, Inouye, & Blumenthal, 2003). As we have seen, digital content creation is also beginning to appear as part of technology R&D in Europe. The European Commission's influence over R&D in member states is driven to a large extent by direct funding of its research priorities under the various Framework programs. If the commission is showing an interest in funding digital content research (which it is), it does not mean member states will adopt that policy, but that research will get funded in those countries and will lead to pressure on national research bodies to support similar activities.

The current research program is the Sixth Framework Program and it is organized into thematic areas. Most are still science and technology-focused, but there are two areas—"information society technologies" and "citizens and governance in a knowledge-based society"—that will directly support arts and humanities research. "Information society technologies" includes two categories of direct relevance: "cross-media content for leisure and entertainment," and "technology-enhanced learning and access to cultural heritage."

Research and development is a live issue in the humanities and creative arts research community in the United Kingdom. On one hand, the Arts and Humanities Research Board is to be made into a full Research Council, with the same status as the others that deal with science and technology (and in the case of the Economic and Social Research Council with social sciences). On the other hand, the same White Paper on higher education (DfES, 2003) makes almost no other mention of either the arts or the creative industries. Nor do most of the Department for Trade and Industry policy statements on the knowledge economy.

### *Concluding Challenges*

In this chapter I have rehearsed the challenges and changes facing traditional science-based innovation frameworks and R&D strategies. There is, of course, a reverse challenge—for the humanities and creative arts. We need to sharpen our understanding and use of the term R&D. Research and development is not just anything we decide it to be in an opportunistic move to add another public outlay pot to the already established ones of cultural and education subsidy. A second and related challenge is to see to what extent we can achieve the kind of scale and coordination expected of the sciences in the national interest. Is it appropriate, or are we endemically (or as a matter of principle) to be considered small-scale, fragmented, cottage-industry researchers?

Third, we do not stand outside of our objects of study. My argument about the relevance to innovation of the content and creative industries—and the

disciplines that study them—reminds us that we are part of what we study (for example, the education industry). This is a conceptual and political shift that presents a major challenge if we continue to think of the humanities and creative arts as constitutively oppositional and individual, and deserving of public subsidy *because* of our oppositionality (the conscience of the nation) and exceptionalism (acquitted with individual brilliance and excellence). Before we are recognized as contributing to the global knowledge economy and our national innovation systems, we must innovate through changing ourselves.

### Notes

1. ICT is seen as one of five key knowledge-based economic growth hotspots into the future, along with biotechnology, environmental management, medical services, and education export.
2. The Australian Research Council (ARC), the Commonwealth Scientific and Industrial Research Organization (CSIRO), the National Health and Medical Research Council (NHMRC), and the defense and nuclear science R&D organizations.

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### References

- Arnold, M. (1869). *Culture and anarchy*. Cambridge, UK: Cambridge University Press (1960 edition).
- Arthur, B. (1997). Increasing returns and the new world of business. In J. Seely Brown (ed.), *Seeing differently: Insights on innovation* (pp. 3–18). Boston: Harvard Business Review Books.
- Batterham, R. (2000). *The chance to change*. Canberra: Commonwealth of Australia.
- Blainey, G. & Maloney, J.E. (2001). *2000 Review of the Australian learned academics*. Canberra: Commonwealth of Australia, available online <http://www.dest.gov.au/highered/respubs/academies/default.htm>
- Bell, D. (1976). *The coming of post-industrial society: A venture in social forecasting*, 2nd ed. New York: Basic Books.
- Belsey, C. (1980). *Critical practice*. London: Methuen.
- Carlyle, T. (1833–34). *Sartor Resartus*. New York: Oxford University Press (1999 edition).

- CITF (Creative Industries Task Force) (2001). Website, <http://www.culture.gov.au/creative/mapping.html>
- Coady, T. & Miller, S. (1993). The humanities without humans. *Meanjin*, 52 (2) 391–399.
- Commonwealth of Australia (2001). *Backing Australia's ability: An innovation action plan for the future*. Canberra: Commonwealth of Australia.
- Community Research & Development Information Service (CORDIS) (n.d.). Website, <http://www.cordis.lu>
- Cunningham, S. (2002). From cultural to creative industries: Theory, industry, and policy implications. *Media International Australia: Incorporating Culture & Policy*, 102, 54–65.
- . (2004). The creative industries after cultural policy: A genealogy and some possible preferred futures. *International Journal of Cultural Studies*, 7 (1), 105–115.
- Delvinia (2001). *Filling the pipe: Stimulating Canada's broadband content industry through R&D*. Report on the National Roundtables on Advanced Broadband Content, prepared for Canarie Inc. Toronto: Delvinia.
- Department for Education and Skills (DfES) (2003). *The future of higher education*, Cm 5735. London: DfES, available online <http://www.dfes.gov.uk/highereducation/hestrategy/pdfs/DfES-HigherEducation.pdf>
- Department of Education, Science and Training (DEST) (2002). *Developing national research priorities: An issues paper*. Canberra: DEST.
- . (2003). *Frontier technologies for building and transforming Australian industries*. National Research Priorities. Canberra: Commonwealth of Australia, available online [http://www.dest.gov.au/priorities/transforming\\_industries.htm](http://www.dest.gov.au/priorities/transforming_industries.htm)
- Eagleton, T. (1983). *Literary theory: An introduction*. Oxford: Blackwell.
- Fuery, P. & Mansfield, N. (1997). *Cultural studies and the new humanities: Concepts and controversies*. Melbourne: Oxford University Press.
- Hearn, G., Mandeville, T., & Anthony, D. (1998). *The communication superhighway: Social and economic change in the digital age*. Sydney: Allen and Unwin.
- Howkins, J. (2001). *The creative economy: How people make money from ideas*. London: Allen Lane.
- Hunter, I. (1992). The humanities without humanism. *Meanjin*, 51 (3), 479–490.
- Hunter, I., Meredyth, D., Smith, B., & Stokes, G. (1991). *Accounting for the humanities: The language of culture and the logic of government*. Brisbane: Institute for Cultural Policy Studies.
- Lash, S. & Urry, J. (1994). *Economies of signs and space*. London: Sage.
- Leavis, F.R. (1945). *Education and the university: A sketch for an "English school"*. London: Chatto & Windus.
- Louis Lengrand & Associés, PREST, & ANRT (2002). *Innovation tomorrow: Innovation policy and the regulatory framework: Making innovation an integral part of the broader structural agenda*. Innovation paper No. 28, European Commission Directorate-General for Enterprise. Luxembourg: Official Publication Office of the European Communities.

- Machlup, F. (1962). *The production and distribution of knowledge in the United States*. Princeton, NJ: Princeton University Press.
- Mitchell, W., Inouye, A., & Blumenthal, M. (eds.) (2003) *Beyond productivity: Information technology, innovation and creativity*. Washington: National Academies Press.
- Newman, J.H. (1852). *On the scope and nature of university education*. London: Dent (1965 edition).
- Organization for Economic Cooperation and Development (OECD) (1996). *The knowledge-based economy*. Paris: OECD.
- . (1998). *Content as a new growth industry*. Paris: OECD.
- Porat, M.U. (1977). The information economy: Definition and measurement. *Information Economy*, 1, 22–29.
- Rifkin, J. (2000). *The age of access: How the shift from ownership to access is transforming modern life*. London: Penguin.
- Romer, P. (1994). The origins of endogenous growth. *Journal of Economic Perspectives*, 8 (1), 3–22.
- . (1995). Interview with Peter Robinson. *Forbes*, 155 (12), 66–70.
- Ruthven, K.K. (ed.) (1992). *Beyond the disciplines: The new humanities*. Canberra: Australian Academy of the Humanities.
- Snow, C.P. (1964). *The two cultures: And a second look*. Cambridge: Cambridge University Press.
- Taiwan (2002). The New Six-Year National Development Plan of Taiwan, available online <http://www.roc-taiwan.or.kr/policy/20021021/2002102101.html>