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The Two Cultures in Australia: where do we go from here?-

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CHASS supported the development of this paper by Dr Ann Moyal which discusses the two cultures of science and social science and the humanities. How can we bridge the divide? This paper proposes ways in which new interdisciplinary approaches at government level could bring the social sciences and humanities together with the sciences to help solve the major problems confronting Australia in the fields of conservation, adaptation and survival.

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Early in 1959 the British novelist and physicist, C.P. Snow, delivered his famous Rede Lecture "The Two Cultures" at the University of Cambridge. In this he attended to the widening separation between the cultures of science and the humanities which, he believed, had overtaken Western intellectual life since World War 2. As physicist and novelist, his feet in both camps, he told his audience, 'I felt I was moving among two groups - comparable in intelligence, identical in race, not vastly different in social

origin...but who had almost ceased to communicate with each other'.¹

Snow's concept caught the wind. His lecture was republished in America and extracted in a scatter of foreign languages from Russia to Japan while his telling phrase 'the two cultures' passed into our language and with it his belief that at a time when science was increasingly determining much of our destiny, it was 'dangerous to have two cultures which can't and don't communicate'.

Snow's message found instant resonance in Australia. During 1959, Prime Minister Menzies, addressing the theme of university education, took the occasion to make a strong argument for the place of the humanities in the national domain. 'We live dangerously in the world of ideas just as we do in the world of international conflict' he declared. 'If we are to escape this modern barbarism, humane studies must come back into their own, not as the enemies of science, but as its guides and philosophic friends.... Wisdom, a sense of proportion, sanity of judgment, a faith in the capacity of man to rise to higher mental and spiritual levels, these were the ends to be served'.²

In the event, fears of the Cold War together with the bloom of liberal democratic tendencies in Australia opened new opportunities for the humanities during the 1960's when enrolments in Arts faculties outstripped those in science.³ Nationally however science was in the ascendant. The Australian Academy of Science was founded in 1954 both tax-free and financially well resourced by government; Australia's major scientific institutions - the CSIRO, the Atomic Energy Commission, and the Bureau of Mineral Resources - grew as influential statutory bodies; a separate Department of Science was established under the Whitlam government in 1974, while the advent three years later in the Fraser government of an advisory Australian Science and Technology Council (ASTEAC), with a strong membership of Academy of Science Fellows, signalled the rising prominence of science in the national polity. The impression was compounded in 1989 by the creation of the Prime Minister's Science Council as 'the principal source of independent advice to government on issues in science and technology'.

By contrast the social sciences fared less favourably in the national domain. The Academy of the Social Sciences of Australia established in 1971 was taxed by government for several years; it was conspicuously less well funded than its scientific sibling, while contributions from social science disciplines to the national endeavour were sidelined by ASTEC in its primary concern for applied research and forging links

1 *The Two Cultures : & A Second Look*.CUP.1963] And see *From Two Cultures to No Cultures*. Civitas: Institute for the Study of Civil Society, London, 2009

2 Foreword to the Australian Humanities Research Council survey of *The Humanities in Australia*. Quoted Graeme Davison, 'Phoenix Rising. The Academy and the Humanities in1969,' *Humanities Australia*, .p07.

3 Ibid p.107

with commerce and industry. The social sciences moreover were not mission- based and, except for a brief interlude of policy connection during the seventies, they lacked advocacy skills and failed to find an authoritative place in policy development.

As historian and former President of the Academy of the Social Sciences in Australia, Stuart MacIntyre, has noted in his aptly titled *The Poor Relation. A History of Social Science* (2010), social scientists were envious of their more prosperous colleagues; they harboured the view that they were undervalued, and ' had a readiness to take offence'. If scientists sometimes called upon them to help implement their discoveries, they were, he noted, 'loath to serve in subordinate roles'. The social scientists', MacIntyre summed up, 'have long sought recognition and influence sometimes by serving and sometimes by challenging, and have often been disappointed'.⁴

In such a scenario it is hardly surprising that a widespread and entrenched belief has grown up in our society that it is to science and technology that we must look to solve the critical national problems that confront us - in energy use, the environment, population, conservation, sustainability, health, ageing, security, nanotechnology and the man-made influence of climate change. Yet it is all too apparent that Snow's cultural 'polar divide' has become vastly more dangerous since his pregnant utterance in 1959 and that there is now a pressing need to work towards shaping collaborative multi and interdisciplinary approaches in this so called twenty first 'Century of Uncertainty'.

Voices, however, have been raised at least from 1990 that situate the humanities and their values firmly within the context of a shared national contribution. As Professor Margaret Manion emphasized in her keynote address to the Australian Academies of the Humanities that year: 'The scholarly and interpretative role of the humanities and the arts, is essential to ensure that we implement policies with both hindsight and wisdom and that we direct concerted energies to this task. There is cause for hope that Australia will play a special role in the world response to the environment offensive or defensive, through its people's awareness of and alertness to the variegated web of values to be protected or rescued.'⁵[5]

Indeed it is the humanists who appear to have annexed the environment as a province where their culture has special insights to confer. In 2003, environmental historian Professor Tom Griffiths, addressing the national research priority of an 'Environmentally Sustainable Australia' on behalf of the Australian Academy of the Humanities, set down, 'The relationship between culture and nature is now high on the Western scholarly agenda...problems that have once been seen as purely scientific or

4 Foreword to the Australian Humanities Research Council survey of *The Humanities in Australia*. Quoted Graeme Davison, 'Phoenix Rising. The Academy and the Humanities in 1969,' *Humanities Australia*, p. 223 and p. 558

5 Margaret Manion, 'The Humanities and the Australian Environment, in D.J. Mulvaney (ed) *The Humanities and the Australian Environment*. Australian Academy of the Humanities, 1991.

material or environmental are now more readily understood as fundamentally social and humanist'. Within this trend Griffiths argued that Australia had a distinctive competitive edge in the ecological humanities - in the practice of philosophy, art history, eco-criticism and environmental history, and in what he defined as 'our New World mentality and predicament, our history of a modern settler society with a long, strong indigenous history, our inheritance of a confrontingly different and unique ecology, our habitation of an island continent that is also a nation'. Such a 'roller-coaster of environmental history,' he observed, 'makes us think differently and more sharply than the rest of the world on many ecological matters' 'We inhabit a moment in the evolution of disciplinary knowledge...we have discovered that nature is more changeable and dynamic than we have acknowledged, and more deeply influenced by human history than we knew . In such a continent, we can never blithely assume the dominance of culture over nature, nor can we believe in the infinite resilience of the land'.

Griffith's summation is rich in insight. Moving towards an environmentally sustainable Australia, he concluded, 'will depend not only on our knowledge of ecosystems and resources, but even more on our ability to initiate, advocate and absorb radical shifts in desired life style, values and technology...The sciences are increasingly looking to the social sciences and the humanities for those relational analytical skills essential to the investigation of seamless phenomena such as time-space, nature culture and an organism-and-its-environment, and for the insights of holism, synthesis and connectivity'.⁶

Against this expression of outreach, however, a strong sense of distancing continues to mark the relationship between social sciences and science outside the former's premier discipline of economics. The distancing, of course, runs both ways: on epistemological and methodological grounds and a belief on the part of many scientists that social science lacks the analytical rigour, experimental verification, and standards proof of their disciplines and, conjointly, on a strong commitment on the part of social scientists to their own disciplinary modes. In essence they look for recognition of their particular expertise and knowledge in many science-related fields and resist the assumption that the scientists will define the problem, produce the solution, and only then ask social scientists to effect the necessary behavioural change. In short there is a deep-rooted mindset among many scientists about the pre-eminence of their role and, concurrently, a deep reluctance among social scientists to move outside their disciplinary foundations.

Nonetheless some prominent social scientists are searching for 'a collaboration of equals'. Political scientist Professor John H. Howard of the University of Canberra has argued directly for a policy of integration and greater commitment to interdisciplinary research working at the boundaries of disciplines through what he terms '*a scholarship*

6 Tom Griffiths, 'The Humanities and an Environmentally Sustainable Australia. An address to a Conference convened by the Commonwealth Department of Education, Science and Training on the subject of a Contribution of the Humanities and Social Sciences to National Research Priorities, Canberra 28 March 2003: DEST 2003, p. 2,3 & 10

of integration'. He sees this 'as the ability to synthesise knowledge from disparate disciplines to resolve pressing problems in the natural environment, energy, health, transport, emerging industries and innovation and that only through this broad-based approach is it possible and feasible to develop options and actions that address national problems and produce national benefits'.⁷ In such cases attention would turn principally on issues that are regional or problem based and where the rich span of the disciplines of the social sciences - anthropology, sociology, demography, philosophy, psychology, law, political science, history and geography, could offer specialist and relevant input.

Kindred recommendations have been advanced by the University of Adelaide's Australian Institute for Social Research Report of 2010 '*Connecting Ideas - Collaborative Innovation in a Complex World*' which strongly reiterates the need to value the contribution of the humanities, arts and the social sciences and harness them for 'sophisticated collaboration' with the physical and natural sciences, technology and engineering.

Dr Lesley Head, Australian Laureate Fellow and director of the Australian Centre for Cultural Environment Research at the University of Wollongong, has plunged to the heart of the two culture question in her recent article 'more than human, more than nature' in *The Griffith Review*. 'Framing an opposition between the sciences and the humanities', she writes, 'wastes time and effort. This is not to deny profound differences in how they go about things, nor the significant differences within what we call science and the arts. But they are not facing each other across the divide, they are both facing the same direction, albeit equipped with different tools'. Hence she concludes, 'To undo the destructive practices of modernity, and reconstitute them into something better, we will need everything in the Enlightenment toolbox, science and arts included. But they will be more effective plunging into the river together, rather than attempting to bridge it.'⁸

'What [then] is the Problem?' asks geographer Nicholas Gill of the interdisciplinary School of Earth & Environmental Sciences at the University of Wollongong. His answer, while alert to the complexity of schisms from alternative approaches within his own discipline, returns again to the central need, true for all the social sciences, to explore the most useful way to make their disciplinary research relevant to policy makers and to close the 'research gap' between the researcher and the 'user'.⁹

Here difficulties abound. At root there is a widely acknowledged lack of dialogue between the whole gamut of researchers, policy makers and cultures. In an ideal world social scientists believe that they could improve policy if only they were given the

7 In conversation with John H. Howard

8 The Griffith Review 31, 2011. 'Ways of Seeing', p. 74-89

9 Nicholas Gill, 'What is the Problem?', *Australian Geographer*, vol 34, 2006

chance to apply their insights. In turn politicians and policy makers do not understand the social sciences and find their advice impractical and at times misinformed. As a result they choose to neglect these repositories of specialist knowledge and impose their own conclusion that quantification and 'scientific' research alone lead to valid and sufficient outcomes.¹⁰

Despite a number of ongoing multidisciplinary ventures in universities and specific centres and the advent of ARC Linkage Projects, the view dies hard that the scientific methods and disciplines can be relied on eventually to deliver solutions. It is a view that Australian Nobel Laureate, Peter Doherty, is anxious to dispel. Writing in his *A Beginner's Guide to Winning the Nobel Prize* he notes that, while as C.P. Snow asserts scientists believe that they "have the future in their bones", 'scientists are really no better at guessing the future than anyone else'. 'Most specialists can speculate about the long term consequences of established trends', he adds, 'but novelty and radical change can take any one by surprise'. Hence In a period when anthropogenic climate change offers humanity a greater problem than it has ever faced, Doherty affirms that 'it's desirable to move science from its remoteness and embed it much more in normal human experience'.

His judgment finds resonance with the Centre for Science Awareness at the Australian National University where a 2011 Poll on Public Opinion About Science showed both an overwhelming interest among the public in scientific issues of society, notably health, environmental and new scientific discoveries but offered clear evidence that fifty percent of respondents did not feel very well informed about science. 'What these figures suggest', co-ordinator Dr Will Grant records, 'is that society is tired of the message that a magic bullet might be provided by some new scientific discovery ...To solve the really big problems, society wants its scientists to be engaged, realistic and integrated, working alongside and with the other committed actors of society'. There was a pressing need for a greater engagement between science and society in Australia'.¹¹

Against this rising groundswell of concern and interest, Senator Kim Carr's statement as Minister for Innovation, Industry, Science and Research, 'Inspiring Australia: A national strategy for engagement with the sciences' issued in February 2010 is particularly significant. Based on an edifice of leading science groups that include CSIRO, Questacon, FASTS (the Federation of Scientific and Technological Societies) and the ABC, its aim is to increase community knowledge and understanding of science and facilitate informed citizen participation in decision making and science policy. Importantly the strategy includes the social sciences and humanities as 'critical to the interface between science and society' and 'especially relevant to discussion of public engagement with the sciences'. Carr's foresighted concept brought warm praise from the then President of the Council of the Humanities and Social Sciences (CHASS), Professor Linda Rosenman, who commended the Minister and the

10 Quo.Gill p.11 and MacIntyre p.24

11 ANU Reporter, p 9. Autumn 2011 and in conversation with Dr. Grant

government for 'consistently stressing the message that multi-disciplinary approaches are needed to address the complex social and scientific problems that Australia faces'.

Well funded by the Commonwealth government to the tune of twenty-one million dollars across three years, the 'Inspiring Australia' strategy has already initiated Communication Conferences and a multidisciplinary Workshop 'Communicating Humanities Research Through Scientific Partnerships' conducted by CHASS in April 2011. The discussion from a considerable range of communicators, scientists, social scientists, multi-media enthusiasts and bureaucrats stretched across such themes as 'the deficiency among social scientists in presenting themselves and their research in a manner that 'will make a difference', the important place of art presentations in enlarging public understanding in regional problems involving science and, underlying it all, the importance of 'creating the right opportunity for dialogue across boundaries, whether academic boundaries between disciplines, academia to policy makers or policy makers to the public'. 'We are in a time of great moral crisis', Questacon director Dr Graham Durant speaking at the Workshop declared, 'and if you look at many of the issues that face us today, that face the climate, that face the country, that face our communities, we cannot retain our neutrality...we've got to actually engage academics'. It is now a time for learning how to have mature conversations in a very noisy world.'¹²

Clearly such Workshops and Conference offer important opportunities for networking and exchange between cultures. But many of the questions asked are by no means peculiar to Australia. Can we, then, not ask for more? The British Government for example has been active in the past decade in attempting to address the question of the management and balance of science and the social sciences in national policy. A 'Chief Scientific Adviser' or 'Chief Scientist' has been in place in Britain since 1964 and , in the last ten years, individual 'Chief Scientists' have been settled within each department of state, except Treasury, to provide departmental exchanges on science. In addition, in 2002, a 'Chief Government Social Science Researcher' serviced by an 'Office of the Chief Social Science Researcher' was established in Treasury with responsibility for professionalising the role of the cadre of in-house social science researchers working across government (hitherto 'on tap but not on top') and integrating them into the processes of government , and for promoting evidence-based policy.

The chosen appointee was Susan Duncan, an eminent civil servant with connections in academic, commercial and public sectors. Summing up her experience towards the end of her tenure, she pinpointed a round of difficulties and obstacles faced by government and academics in closing the research gap which included issues of the nature of social science knowledge, incomplete knowledge and inconclusive findings, the problem that social science research rarely points to a single solution, the disjunction between academic research timetables and political timetables, and the problem of connecting public opinion with evaluation studies. [13]. It all has a familiar ring as did her recognition that social scientists feared a 'disciplinary dumbing down'

¹² Dr Graham Durant presenting at the CHASS Workshop, Communication HASS Research through Scientific Partnerships, RMIT 13 April 2011

in the evidence-policy process and continued to prefer publication of their research in peer reviewed journals for their professional advancement rather than participating in advisory roles to government. Her trenchant advice to the social science community also made it plain that 'nowadays it is not enough to be good at research: you have to be good at communicating, negotiating and challenging'.¹³

Even so her overall conclusion had a positive ring. There had been substantial gains in creative development and review between policy makers and social scientists and 'qualitative research had become an important part of policy evaluation widely used to inform governmental policy design'. Her major thrust focussed on the need for 'horizon scanning' in the exploitation of research. 'We need', she said, 'to be always analysing the evidence with an eye to looking for the problems which are coming up on the horizon and using social research to think about and understand the things that are going to happen in the future. This isn't about predicting the future but reviewing the state of knowledge in cross-cutting policy areas on an ongoing basis'.¹⁴

With Duncan's departure from office in 2008, eminent criminologist, Professor Paul Wiles was appointed in the Home Office to combine the 'Chief Social Researcher's role with his work on criminology, security and social behaviour. He too has been a strong advocate of social research for horizon planning citing the scenario of climate change. 'We know this is happening: we know quite a lot about the economic consequences, but we need to know much more about the social implications. Are we prepared? What kind of changes in human behaviour is that going to require, and are we thinking about the role of government in that? We need to see further development in using social research to think about and understand the things that are going to happen in the future'.¹⁵ Wiles' retirement from the post in 2010 and his replacement by two more junior officers who also shared other responsibilities has recently evoked strong representations to government from both the Academy of Social Sciences and the House of Lords Science and Technology Sub-Committee importantly to restore the status of the post of Chief Social Scientist and ensure 'the ability of social scientists to influence government at the most senior level, at the heart of government.'¹⁶

13 Judith Burnett and Susan Duncan 'Reflections and Observations: An interview with the UK's first Chief Government Social Researcher', *Critical Social Policy*, 2008, 28(3) p283-298

14 Judith Burnett and Susan Duncan 'Reflections and Observations: An interview with the UK's first Chief Government Social Researcher', *Critical Social Policy*, 2008, 28(3) p. 296 and cf Gill, p,11

15 Ibid, p.296 and see Cf Hugh Bochel and Susan Duncan,(eds) *Making Policy in Theory and Practice.*, Bristol Policy Press, 2007

16 British Civil Service Network, Matt Mercer.

In its smaller milieu, Australian governance and administrative machinery differs notably from that of the United Kingdom but the British experience is instructive. In Australia, by contrast, a science advisory structure is geared to providing 'high level independent advice' from the Chief Scientist and his Secretariat and, within this purview, from the Prime Minister's Science, Engineering and Innovation Council (PMSEIC). The latter, established originally as The Prime Minister's Science Council in 1989 and the Prime Minister's Science and Engineering Council in 1992, is currently defined as the 'principal source of independent advice to government on issues in science, engineering and innovation'. Made up of a representative from each government department and a number of ex-officio members representing the four Academies of Science, Technology, the Humanities and Social Sciences plus an independent scientist and a social scientist who meet in committee four times a year, its voice is seldom heard in the land. And with a format that despite name changes was devised more than two decades ago, the Prime Minister's Science, Engineering and Innovation Council appears to have a singularly limited role in policy interaction today.

We live in a dangerous age but one that offers major opportunities for adaptation. Science communication and science education remain crucial in our long range planning as does a forward view for reshaping university structures. However, a persuasive case now exists for the appointment of a 'Chief Social Scientist' to work alongside the 'Chief Scientist' to assist in leading 'a whole of government approach' on issues of key national policy. At an immediate level there are important skills in the social sciences to bring to our understanding of behavioural attitudes of societal 'denial, 'fear' or 'confirmation' of policy approaches and there are vital contributions to be made across the humanities and the arts. A distinguished Chief Social Scientist 'speaking knowledge to power', could serve as a vital 'knowledge broker' across disciplines, sectors and policy.

In his address in March this year at Parliament House at the 'HASS on the Hill' conference of the Council of the Humanities, Arts and Social Sciences (CHASS) to link these arenas with policy makers, Senator Carr expressly joined the natural and social sciences in his inclusive use of the term 'the sciences', using the word 'science' in its wider European sense as 'the systematic accrual of knowledge'. 'Your crucial work', he told the meeting, 'has champions in some of the highest places in government in Australia.' His sense of the broad church of science and of its overarching contribution to the future of homo sapiens and Planet Earth, offers a major contribution to new ways of thinking. We need it urgently now.