DOES HISTORY HAVE A FUTURE?

An Inquiry into History as Research

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ABSTRACT

This thesis explores the question of history’s future as a research discipline in the academy and the question of the discipline’s function in ‘pure’ inquiry. Central to the notion of research is the notion of discovery of new knowledge, but what constitutes new historical knowledge rather than simply more historical information is not clear. As the idea of research (which is understood to mean the discovery and creation of new knowledge) is central to the idea of the modern university, the future of history as a research discipline in the research university would seem to depend on the discipline being clear on its research function. Further complicating resolution of this question is the fact that the funding of research is informed by science and technology paradigms where research is defined as ‘pure basic research’, ‘strategic basic research’, ‘applied research’, and ‘experimental development’. Curiously, what these classifications mean for the humanities generally and history in particular, remains unexamined—despite the fact that professional survival depends on the academic convincing sceptical funders of the relevance of humanist research. Do historians do basic research? If basic research is inquiry at the edge of understanding, how, and by whom, is the edge defined? In the first decades of the University of Berlin—the institution that formed the model for the modern research-university—the edge was defined through philosophy and history. Hegelian systematic philosophy, Fichtean philosophy of the subject, and the philosophical historicism of such thinkers as Ranke, Niebuhr, Ast and Boeckh was concerned with the subject’s knowledge of knowledge: there lay the edge. By the end of the nineteenth century no discipline was foundational. Epistemological ‘advance’ had resulted in not only the split of knowledge into that derived from humanities or ‘spirit’ studies (Geisteswissenschaften) and that from science studies (Naturwissenschaften), but also the proliferation of disciplinary specialization that further entrenched the dichotomy.

In the twenty-first century, inquiry’s edge has moved on. Climate change, environmental degradation and biological and genetic engineering have posed wholly new existential questions. The Archimedean point from where the edge is viewed is no longer
anthropocentric. Society and nature are inextricably connected. The physical and the spiritual can no longer be considered separately. When ‘we’ can either be manufactured or artificially enhanced the notion of autonomy and self-fashioning takes on a different hue in postmodernity than in modernity. There is now an increasing but unsatisfied need for more interdisciplinary and holistic knowledge. Unfortunately, no effective models or processes exist to enable this need to be met. This thesis explores ways in which the deficiencies might be overcome and explores academic history’s possible location within a future integrated-knowledge schema.
DECLARATION

This is to certify that

i. the thesis comprises only my original work towards the PhD,

ii. due acknowledgement has been made in the text to all other material used,

iii. the thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.
ACKNOWLEDGEMENTS

I wish to acknowledge the encouragement, support and guidance given to me in the production of this thesis by my supervisors, Laureate Professor Stuart Macintyre and Dr David Goodman, and also by Professor Peter McPhee, who regardless of other duties has always found time to discuss and advise. Without Peter’s encouragement and enthusiasm the project might have remained thoughts only. Without Stuart’s wise counsel and instinctive sense of proportion during the candidature, the line where angels fear to tread would have been crossed often; the nudging away from peril was always timely. Without David’s diplomatic but firm insistence that arguments needed to be both central and convincing, there might have been a very grand drive to a rather modest house.

I am grateful also to Dr Louis Sass and Dr Robyn Ferrell for the discussions we had and their generosity in giving me copies of unpublished papers presented by them at separate research seminars. Dr Sass’s seminar discussing ‘madness’, Oscar Weininger, and the intersection of clinical psychology and the creative imagination coincided with my interest in the relationship between intelligence and survival. Dr Ferrell’s seminar on the technology of ‘genre’ coincided with my interest in questions raised by Hans Jonas, Jürgen Habermas and others regarding post-human futures and the boundaries between the ‘natural’ and the manufactured.

I hope the house stands up to more than a gentle breeze. If it does not, it will be the fault of the architect alone.
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DOES HISTORY HAVE A FUTURE?

An Inquiry into History as Research

PART I:  PAST
INTRODUCTION

If poets are the unacknowledged legislators of the world, science fiction writers are its court jesters. We are the wise fools who can leap, caper, utter prophecies, and scratch ourselves in public. We can play with Big Ideas because the garish motley of our pulp origins makes us seem harmless ... yet our ideas permeate the culture, bubbling along invisibly, like background radiation.

—Bruce Sterling: *Burning Chrome*¹

Historians have lately been poor synthesizers and may soon find that others are doing their synthesizing and paradigm-establishing for them. Whether they like evolution or not, an informed reaction would probably be timely.

—David Gary Shaw: *History and Theory*²

In his book, *The Practice of History*, Geoffrey Elton declared that when he read discussions by others of how historians think, ‘how they claim to describe that which no longer exists, or whether historical fact has an existence independent of the thinker about facts, I marvel at the ingenuity of the writers, for usually they are men who have never apparently themselves tried to do the work’.³ Elton, with his usual pugnacity, was entering into the debate on the question ‘What is history?’, and Hugh Trevor-Roper observed at the time (1967) that ‘[Elton’s] challengers seldom emerge ungored … even an innocent bystander may be nicked by the flashing horn’.⁴ Indeed they may—particularly the bystander embarking on a research degree in history; and particularly if that embarkation was stimulated by interest in the question of history’s future in the academy. Increasing the risk further is the requirement, for successful completion of that degree, that the apprentice demonstrate ‘the ability to analyse critically within and across a changing disciplinary environment’.⁵

The issue, however, is not so much the danger of the accidental nick as the fact that

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⁴ Cover, Elton, *The Practice of History*.
⁵ Dean of the School of Graduate Studies, *The University of Melbourne: The PhD Handbook* (Parkville: School of Graduate Studies, 2004), 1.
there is an obvious truth in Elton’s remark. In practical life—that life which, as Ortega y Gasset says, is fired at us point-blank—experience counts for more than opinions. Until one has done something, do not presume to preach to those that have. The Practice of History, Elton explained, was not a treatise, but an explanation of one working historian’s faith and practice. His was a particular cast of mind and he had a particular, though orthodox, notion of what history was; but given that he was an eminent, highly professional, historian, he had earned the right to speak.

Elton’s injunction, however, to ‘watch and learn!’, while perhaps sound advice to the apprentice for learning the craft of writing history, was certainly not sound advice if academic history is more than a craft. Issues of scepticism (in its formal philosophical sense) may be ignored, perhaps, but issues of objectivity, values, and critical stance may not. Faith is not enough, and Elton was deliberately conflating form with content and declaring, emphatically, that the past and the historian’s presentation of it were the same thing. Thus, common sense, not theory, was what was needed for history’s practice. But academic history is, of course, more than a craft for the presentation of information about the past. As academic history—as distinct from antiquarianism or cultural narrative—it is a mode of inquiry whose purpose is to find answers to particular conceptual questions. Consequently, the history craftsman can no more ignore questions regarding history’s theoretical foundations than the buggy-whip craftsman could ignore questions of transportation modes. The buggy-whip manufacturer who assumed that the motor-car was not here to stay, would live to regret that assumption. There are always larger forces operating. Transport modes change and associated trades either adapt or die; society changes and institutions either adapt or die; and styles of reasoning change and academic disciplines either adapt or die. ‘Adapt or suffer extinction!’ seems to be one unavoidable, if primitive, lesson from experience.

As we now know, the philosophical drip that had irritated Elton in the 1960s, soon became a post-structuralist trickle, which by the 1980s had turned into a postmodernist flood

that threatened to sweep away the profession’s entire foundations. The severe effects of the torrent were evident in the forum held by *The American Historical Review* in 1990 to discuss the implications for the profession of Peter Novick’s *That Noble Dream: The ‘Objectivity Question’ and the American Historical Profession*. Novick had discussed what he saw as ‘the collapse of comity’ in the profession, and had concluded, gloomily, that by the last decades of the twentieth-century: ‘every group its own historian’; that ‘there was no king in Israel’.

According to the *Review*’s editor, the attendees to the forum were so numerous that ‘they filled the aisles, the floor space in back (sic) of the room, and spilled into the corridor outside’.

In the first decade of the twenty-first century, the question of what the future holds for the discipline is still ‘open’—as it is for the academy itself. What is it that academic historians do that requires their location (either real or virtual) within the academy? Conversely, what is it that the academy does that requires historians?

Dorothy Ross, in her attempt to summarize the *American Historical Review*’s forum discussion, wondered whether ‘this radical disjunction between epistemology and practice … could be a postmodern stance’. By ‘postmodern stance’ she meant a self-reflexive, ironic, stance by the historian towards the objectivity of the historian’s own account. Her own view was that the experience of historical research—in the words of another participant: the ‘quiet listening to voices from the past’—was just ‘one stage within the hermeneutic process [italics in original]’. In other words, the past was simply the *field* used by the researcher in the quest for a deeper understanding of something else. Therefore, history was more than simply a science-like reconstitution of past society; that ‘something else’, as Dilthey emphasized, concerned meaning in the ‘human’ world—in all that world’s most mysterious and elusive aspects. There were many ways of seeing, thus many ways of knowing. And the relationship between language and how experience was understood, was complex. The human world’s essence required more than science to capture, and its meaning required more than science to

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communicate. Was, therefore, history also an art?

The question has proven intractable. In one-hundred years, the discipline has made little progress on the history-as-art-or-science question since the debate was ignited by J. B. Bury in his much criticized, but much misunderstood, 1903 inaugural lecture. And yet it needs clarification if history’s function, and its different role inside and outside the academy, is to be understood. Notwithstanding our current ironic stance, and our improved theoretical equipment, the ‘What is History?’ debate is still active. Bury’s argument, and Trevelyan’s rejoinder, are still pertinent.

In Australia, in 1993, the debate flared again, with great heat and great bitterness, over the merit as history of Manning Clark’s six volume, A History of Australia. Whether the combatants were from inside the academy or outside, it mattered little to the position taken. To some the work epitomized ‘great’ history; to others it was just literary fiction, just the highly coloured phrases of an author painting a preconceived vision; to still others, with Clark, ‘the whole game had escaped him’. When a truce was called, neither side had been moved from their original positions. It seemed that everyone had their own view of what the history ‘game’ was about, and what truth was at its centre. But there was no interest in the question of where it was produced—whether from inside the academy or outside it. ‘History’ seemed not to be considered the exclusive province of the academy; there were no barriers-to-entry perceived for historiography. The relevant consideration seemed only to be how ‘good’ was the history that was written.

But, clearly, there must be a difference between an academic whose field of inquiry is the past and an amateur whose field of interest is the past, if the one is to be paid as an academic specialist. Or rather, there should be a difference if the academic historian is to

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12 The debate was sparked by Clark’s publisher, Peter Ryan, in an article “Manning Clark”, Quadrant, 37, no. 9 (1993). The range of views can be found in, Manning Clark: Essays on His Place in History, ed. Carl Bridge (Melbourne: Melbourne University Press, 1994).
argue for remuneration as a specialist in the academy, not as an author in the marketplace. As cultural beings, history is the air we breathe—we need origin stories; and as cognitive beings, history is our intuitive conceptual frame—experience is our guide. Consequently, ‘history’s’ existence is assured. But academic history is not that history. *That* history is extrinsic to the function the academic historian performs in the *academy*. If the discipline is to adapt successfully to institutional and social change, then it must be clear on that difference; it must be clear what ‘business’ it is in. The function of the academic historian cannot be that of (just another) writer of histories if the word ‘academic’ is to have any meaning.

Dorothy Ross had noted, also, that

One thing that redefinition of historical objectivity based on intellectual communities cannot do … is render historiography immune from the deeper forces of historical contingency at work in the profession … questions, methods, and standards of competence inescapably flow with the tides of history.\(^{13}\)

But Ross was assuming that the profession was capable of absorbing those forces and refashioning itself. There is, of course, another possible outcome. The discipline could simply sink beneath the tides, to be replaced by more vigorous forms of inquiry. There is no law which says that the discipline (or the university) should survive the larger forces of historical contingency—just as there is no law which says trades, or companies, should survive. History and the ‘humanities’ are no more assured of a permanent place, as entities, in the academy, than were the *trivium* and *quadrivium* which were once the very definition of what was meant by ‘liberal education’, which, in turn, was the very definition of a university education.

One could, however, speculate and conclude that a more likely outcome is that there will be an increasing separation of practice from those inside the academy to those outside it. Inside the academy ‘history’ will become a term like ‘molecular structure’ and be used by many specialists in the prosecution of their particular inquiry. The historian might then

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\(^{13}\) Ross, *“AHR Forum Afterword”*, 705–706.
metamorphose to a more complex form of history specialist, and ‘history’ might then be the term used to denote the particular product produced outside the academy—whether by history professionals, or by the amateur craftsman—as with ‘painting’, ‘pottery’, and other ‘writing’.

At the beginning of the twenty-first century we are very aware of what, now, are some of the deeper forces Ross was connoting. Population growth, globalization, the revolution in information technology, and the revolution in biological science, have changed the world in ways unimagined even in the last decades of the twentieth century. For the society, the implications for future life of biotechnology, the ‘wired world’, and climate change are immense. For the university, the implications of the ‘wired world’ on the university’s traditional role as ‘knowledge gatekeeper’, is profound. And the implications of new notions of intellectual property arising from such historically contingent actions as, for example, the implementation of the Bayh-Dole Act,14 have already changed the way universities (and governments) organize and value knowledge. For the disciplines, the effect of neuroscience, nanotechnology, biological science, and genetic engineering on the boundaries of disciplinary inquiry, is revolutionary. Notions of human nature, of human culture, and of anthropocentricity itself, are changing. Thus, both the form and content of the ‘humanities’ and social sciences cannot fail to be affected. It does not mean that they are less relevant, merely that they must be clear on what their distinctive domain and function is in the academy as it evolves in the twenty-first century.

If the assumption is accepted that the academy as an idea will continue to denote an intimate connection to knowledge and its creation, then each and every discipline must be clear on how it, as specialist inquiry, contributes to the discovery of new knowledge within these new knowledge-contexts. But since knowledge contexts evolve, so too do understandings of what comprises useful knowledge. Therefore, neither the sciences, nor the humanities and social sciences, alone, are sufficient for the discovery of useful new knowledge. This does mean, however, that the academy, if it is to continue to claim a distinctive institutional research role in the wider community, has an obligation to develop

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14 In the US, in 1980.
structures and processes that enable the effective integration of these very different specialist
researches conducted inside its boundaries. Currently no such structures and processes exist.
Mixing disciplines is not integrating knowledge.

II

The motivation for this thesis was curiosity regarding history’s future in the academy, and
what ‘evolve’ might mean for the practice. However, the stimulus for that curiosity was the
argument in Australia regarding the role of universities, the way in which research should be
funded, and the place of the arts and humanities in the new, global, ‘knowledge economy’.
The debate in Australia had its origins in the neo-liberal philosophy adopted by the Australian
government in the late 1980s and the affect this philosophy had on the funding and
organization of Australia’s tertiary education sector. In the public debate there appeared to be
an irreconcilable tension between the rationale of the arts and humanities and the commercial
logic of the ‘knowledge economy’. On the one hand, it seemed that no-one denied the
essential role that the arts and humanities had in fostering innovative thought and enhancing
‘quality of life’. On the other, the difficult question was: how is their value to be measured
(thus, what funding, and what mechanism for funding, is appropriate)?

The arguments forwarded by the arts and humanities lobbies as answers to these
questions seemed to be either self-defeating or autotelic. With economic rationalism clearly
identified as the enemy (because of its narrow conception of utility), the arts and humanities
could either argue for relevance through appeal to narrow instrumentalist logic—media
content, for example—or an opposite, abstract, appeal to the idea of the university, and the
idea of liberal education. The first argument was a capitulation; the second argument seemed
circular and based on faith, not logic. Unless the purpose of the pursuit of that belief could be
explained in terms of today’s needs, then its relevance would still be not obvious to those that
needed convincing. And yet, the conviction behind that belief—the intrinsic value of
knowledge for its own sake and the pursuit of ‘truth’—was central to the notion of ‘pure’
research\textsuperscript{15} which, in turn, was central to the notion of the ‘knowledge economy’. The economic rationalists’ central creed was that national ‘wealth’ depended on competitiveness in the global knowledge economy, and that it was research which was the key to that international competitiveness.

The problem was, neither the arts and humanities lobbyists, nor the economic rationalists, had any clear idea of where or how arts and humanities research could be fitted into the predominantly science- and technology-driven research and development (R&D) paradigm. That paradigm defined the process by which knowledge was ‘advanced’ in the international ‘knowledge economy’. How could two fundamentally different types of knowledge—empirical knowledge and hermeneutic knowledge\textsuperscript{16}—be fitted into the one paradigm? One resulted in tangible products which, regardless of whether the product was a mobile phone, a communication system, or a lunar module, delivered obvious utility to individuals, society, and governments. The delivery of that utility, however, was only possible through a phased development process which separated researchers at one end from users at the other. The researchers could not produce the product, and the users could not accomplish the research. Each phase of the conversion process required different skills and different knowledge. In contrast, the ‘product’ of hermeneutic knowledge was \textit{understanding}. The user’s understanding of the research was the product utility. There was,

\textsuperscript{15} By ‘pure research’ is meant ‘basic research’. ‘Basic research’ is an OECD and Australian Bureau of Statistics R&D-category term; the categories are, in order: pure basic research, strategic basic research, applied research, experimental development; ‘innovation’ is a separate category, outside ‘R&D’. See footnote Chapter 3, p. 114.

\textsuperscript{16} The one type of knowledge derived from natural science or Naturwissenschaften, the other from the ‘moral sciences’ or Geisteswissenschaften (‘spirit’ sciences or studies), to use the original nineteenth-century German term. \textit{Wissenschaft} means pure learning as opposed to utilitarian skills. The term \textit{Geisteswissenschaften} was made popular by Jacob Schiel, the German translator of John Stuart Mill’s \textit{System of Logic}, but through Dilthey the romantic, idealist heritage of the word, rather than its science root, was emphasized. See Hans-Georg Gadamer, \textit{Truth and Method} (London: Continuum, 2004), 3–8. In the 1980s the term came to be associated with the neo-historicism that emerged from the ongoing national debate (\textit{Historikerstreit}—‘historian’s quarrel’) on how to interpret Germany’s Nazi past. Jürgen Habermas described this neo-historicism as a reaction which ‘sees itself as a return to the important nineteenth-century German tradition of Geisteswissenschaften’. However, in this modern form, he explained, it was a ‘rehabilitation of narrative’… the narrative presentation of events as opposed to the claims of theoretical understanding’. See Jürgen Habermas, \textit{Autonomy and Solidarity: Interviews with Jürgen Habermas}, ed. Peter Dews (London: Verso, 1992), 237. Throughout this thesis the term Geisteswissenschaften will be used in its original sense of theoretical inquiry.
therefore, the assumption that the pure research product and the user product were coincident—that no additional process, other than articulation, separated them. Further, judgements of the utility of the delivered knowledge would depend on not just whether it was understood, but also on whether its content was agreed. Its utility would be demonstrated through its general intellectual affectiveness. The non-specialist user was, in effect, judging the relevance of esoteric basic research.

In that there can be no other judge of utility than the user, both product types were similar. There are as many physical products judged to be ‘useless’ as there are ‘useless’ theories and ideas. But for one, there was a process by which basic research was shielded from non-specialist scrutiny. For the other, there was no process. This was unfortunate as the arts and humanities needed a process that insulated their basic research outputs from the requirement to demonstrate value to government (and public) users, and yet which allowed governments and the public to have confidence that they would benefit, eventually, from the advances being made at the edge of human understanding. Although organizational structures exist, in the form of expert panels in research funding bodies, which, in principle, should ensure that research is funded on its basic-research merits not utility, in practice the pervasiveness of politics and instrumental logic—through the governing boards and other administrative bodies—often results in compromised selection.

A particular irony is that the styles of reasoning developed in the 1920s and 30s by the philosophers and social scientists in the Frankfurt Institute for Social Research in order, specifically, to make theoretical research socially relevant, and which have been seminal for current social critique, are now seen by economic rationalists to epitomize ‘useless’ academic, postmodernist, indulgence, and peripheral to the ‘real world’ knowledge economy. There is some recognition that no one disciplinary knowledge is foundational—

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17 Max Horkheimer, towards the end of his life, commented that ‘The enterprise succeeded only because … a group of men, interested in social theory and from different scholarly backgrounds, came together with the belief that formulating the negative in the epoch of transition was more meaningful than academic careers.’ Max Horkheimer, “Foreword”, in Martin Jay, The Dialectical Imagination: A History of the Frankfurt School and the Institute of Social Research 1923–1950 (Boston and Toronto: Little, Brown and Company, 1973), xi.

18 See, for example, Gideon Haigh, “The Nelson Touch: The New Censorship”, The Monthly,
that specialist knowledge, whether scientific or non-scientific, is entwined. But what is still lacking are conceptual models that enable the effective integration of the different researches. Pure Geisteswissenschaften research is as fundamental to the knowledge economy as pure scientific and technological research.

For this thesis, therefore, it seemed that if the future of the arts and humanities (history in particular) was the object of interest, then the question to pursue was the nature of arts and humanities research, and the relationship between scientific and non-scientific knowledge. But inseparable from those questions were the associated questions of what is meant by knowledge, thus what is meant by new knowledge as distinct from simply more information? Hence, what is meant by ‘discovery’ in relation to knowledge? Could forgotten knowledge rediscovered be considered new knowledge? To what extent is wisdom, knowledge? How do we know? What do we know? Why know?20

It seemed, on reflection, that the utility of Geisteswissenschaften knowledge—its affectiveness or value in ‘real’ life—is derived in two ways: through guidance in the ethical and practical life: how to act, and in enrichment of ‘spiritual’ life or existential being—thus, how to be. History, as a form of wisdom, Carlyle’s history, for example, or Clark’s, could provide utility in both those ways (if their ‘history’ was agreed). In comparison, the aesthetic arts would provide solely existential utility. It seemed, therefore, that any inquiry concerning academic history’s future research role could not avoid epistemology or ontology; and neither could it avoid teleology since origins and change were the matter of the historian’s traditional research function.

As the pursuit of these questions was undertaken as part of a research degree in history, not philosophy, and as the arguments and discussion were intended for historians, not philosophers, so the approach taken was historical, not philosophical (in its disciplinary sense). Genealogy and the tracing of custom and practice, not technical arguments in May, 2006.

19 See note 16 above for the meaning of this term in this thesis.
20 ‘But why not allow oneself to be deceived?’ Nietzsche asked (The Gay Science, Book V, Passage 344).
philosophy, were the main methods used. Specifically, the idea of research and the research university was investigated, and the historical research paradigm, as it was enunciated and then institutionalized, was traced. In particular, the different understandings and practices in Germany, Britain, and Australia were studied. The different understandings and practices arose from different intellectual traditions and institutional settings, and those differences produced different histories. The study indicated that those different histories reflected the search for different knowledge, different ‘truths’, and different understanding. Consequently, the issues this raised regarding truth, knowledge, and understanding, were explored and their implications for academic research considered.

The study recapitulated the (perhaps obvious) fact that all disciplinary intellectual inquiry is a search for true knowledge through the penetration of appearances to an underlying reality (disciplinary boundaries, in principle, define domains of interest, not separate knowledge) but that there are epistemological and ontological problems because of the ambiguity and elasticity of the terms ‘true’ and ‘underlying reality’. True to what? Which reality is pre-eminent: social reality or physical reality? Can there be knowledge with no point of view? 21 The study showed also that these perplexities had stimulated a related and persistent concern, particularly since the mid-nineteenth century and becoming more insistent throughout the twentieth century, that increasing specialization in research was exacerbating an increasing but unsatisfied need for more interdisciplinary and holistic knowledge. Thus, the question was not ‘What is the primary reality?’, nor even ‘Which reality should be considered primary?’ Rather, it was: ‘If research is to ‘progress’, how can the two types of research knowledge be unified so that ‘progress’ can be made?’ 22 And specifically, where would history fit in any unified research schema? Consequently, the thesis explored possible new conceptual frames, new knowledge models, and new

21 Or, as Thomas Nagel described it: a ‘view from nowhere’. Maurice Merleau-Ponty commented: ‘Since we are all hemmed in by history, it is up to us to understand that whatever truth we may have is to be gotten not in spite but through our historical inherence … As long as I cling to the ideal of an absolute spectator, of knowledge with no point of view, I can see my situation as nothing but a source of error.’ Maurice Merleau-Ponty, Signs, trans. Richard C. Mc Cleary (Evanston, Ill: Northwestern University Press, 1964), 109.

22 The question of what ‘progress’ means is, of course, itself a perennial research question.
institutional processes. The result is a thesis which moves from past practice to future possibilities.

III

This thesis, consequently, is a project in intellectual history but one whose ‘stance’ is towards the philosophy of history and the sociology of knowledge. The first phase investigated how the search for knowledge became institutionalized in the modern university, and the ways in which the fundamental philosophical problems inherent in the intuitive human desire to know were articulated and reflected in disciplinary research—in particular, how they were reflected in academic history in Germany, England and Australia in the nineteenth and twentieth centuries. The roots of German Idealism and British Positivism were traced, as well as the distinctive attitudes towards research, pedagogy and ‘Kultur’ that existed in each country. The first phase concluded with a deeper investigation of the nature of knowledge and understanding and what research at the edge of understanding might mean.

The final research phase looked more closely at the issues of reason, subjectivity and the synthesis of empirical and hermeneutic knowledge. The rise and rise of the biological sciences and genetic engineering in the late twentieth century has meant that the notion of embodied cognition is now as fundamental to notions of subjectivity, judgement, and intelligent action as disembodied logic, reason, and common sense had been earlier. There is now an increasing understanding of the interconnectedness of the body/mind/culture network that is our society and our life-world, and of the blurring in the present life-world—as a result of biological and genetic engineering—of the distinction between the manufactured and the ‘naturally grown’. Increasingly, academic inquiry is investigating post-human futures.

The longitudinal and synthetic nature of the research questions in the research phases meant that a wide range of literature had to be studied. Initially the focus was on literature concerning the history of the university, education, and research, then literature concerning German, British and Australian universities and historiography. However, quite quickly the

23 A wide range of literature old and new was reviewed, from standard works such as those of
intellectual focus of the literature review became the investigation of what, in those institutional and intellectual settings, the research ‘edge’ was perceived to be, and what was the (moving) Archimedean point from which those researchers looked ‘down’ upon their (changing) research objects. Regardless of whether the period was pre- or post-Enlightenment, or pre- or post-modernity, and regardless of whether the argument concerned the legitimacy of romanticism or modernity or postmodernity, at the core of those concerns were always the apparently irreconcilable mind/body, agency/structure, empiricism/rationalism dualisms. Finally, the focus became literature which explored current notions of cognition, embodiment and genetic and biological engineering and their inextricable connections to bioethics, neuroethics and posthuman futures.

The review confirmed the intractability of the problem of the increasing need for the integration of specialist research effort, but the lack of a conceptual framework by which this might be managed. There were practical difficulties: only academic researchers appreciated the intellectual value of the more ‘extreme’ pure basic research in the humanities, arts and social sciences, and only managers appreciated the necessity of structure and control (however disguised) for the successful execution of any group process. And there were theoretical difficulties: there was general acceptance that no discipline was foundational, but also that, paradoxically, research advance implied increasing specialization. But the

Laurence Veysey, George Iggers, Fritz Ringer, A. H. Halsey, Sheldon Rothblatt, to more recent work such as that of, for example, Michael Gibbons, Helga Nowotny, Ronald Barnett, Tony Becher, Simon Marginson and articles in current education journals such as American Journal of Education, British Journal of Educational Studies, European Journal of Education, etc.

24 As articulated in the last twenty years, for example, by contemporary thinkers such as Jürgen Habermas, Niklas Luhmann, Richard Rorty, Jean-Francois Lyotard, Paul Ricoeur, Hans Blumenberg, Hans-Georg Gadamer, Hans Jonas, Michel Serres, Reinhart Kosselleck, Frank Ankersmit, and other writers such as Hubert Dreyfus, Seyla Benhabib, Richard Bernstein, and Martin Jay, for example (and journals such as History and Theory, New German Critique, Journal of the History of Ideas, and the Journal of Modern History, for example).

25 Literature exemplified by such writers as Daniel Dennett, Antonio Damasio, Howard Gardner, William Connolly, N. Katherine Hayles, Sharon Krause, Martha Nussbaum and (again) Jürgen Habermas, Richard Rorty, Hans Jonas, Michel Serres and their ilk.

26 Arguments such as those between Habermas and Rorty, or Habermas and Luhmann, or Rorty and Lyotard address these issues, but only as philosophical discussion. Where there is argument across the science/humanities divide—such as, for example the discussion between Jean-Pierre Changeux and Paul Ricoeur (What Makes Us Think?: A Neuroscientist and a Philosopher Argue about Ethics, Human Nature, and the Brain), the result is, inevitably, simply agreement to differ.
Introduction

literature reflected also that there was, and is, an underlying ontological problem. If the intellectual journey from Enlightenment to modernity to postmodernity reflected what has been called the crisis of reason, then the journey from postmodern to post-human is reflecting what could be called the crisis of intelligence. Can research answer the question: ‘What is knowledge, thus research, for?’ If pure basic research is inquiry at the edge of understanding, how, and by whom, is the edge defined?

Chapter 1 of the thesis begins with the exploration of the conflict between the economic-rationalist (‘managerialist’) funders and the arts and humanities fundees, and explores notions of value and distinctive competence. It argues that universities and disciplines must identify their unique research roles in the competitive knowledge economy. Chapter 2 investigates the issue of research and scholarship and how the desire to know became translated into separate domains of knowledge. It looks also at the way in which academic history became institutionalized in Germany, England and Australia. The chapter explores the different epistemological and social traditions in those countries, and the relationship between research, scholarship, history, and the notion of epistemological ‘discovery’. Chapter 3 explores the relationship between data, information, and knowledge and the question of the purpose of understanding. In looking at these questions, the role of research and the issue of what academic history saw traditionally to be its function in the search for knowledge and understanding, is investigated. In Chapter 4 the question of inquiry’s ‘moving edge’ and its consequences is explored. The twenty-first century presents new problems, thus new responses are required. The question of what constitutes ‘intelligent’ response becomes problematic if notions of intelligence are expanded beyond traditional, narrow definitions. Possible new conceptual frames and knowledge models are discussed, and academic history’s place in these new frames and models is explored. The final chapter looks at past and current experience with the fragmentation of knowledge resulting from increasing research specialization, and the ineffectiveness so far of institutional arrangements to mitigate, or solve, the problem. The relevance of defence and aerospace models to the management of whole-of-knowledge programs is investigated, and the institutional and
disciplinary implications discussed. The discussion in this section of the thesis draws on the candidate’s professional experience in the management of large and small multidisciplinary, advanced-technology development projects in the defence, aerospace, telecommunications and information-technology industries.

IV

This thesis has sought to investigate the future of academic history in rapidly changing intellectual, institutional, and social contexts. Such a project is inherently risky—perhaps naive. To attempt such broad questions, many of which lie outside the traditional boundaries of the discipline, is to risk superficiality and lack of focus. The questions, however, arose from real and current problems and the conviction that if a useful contribution, however small, could be made to the conversation surrounding these issues, then that contribution would be of some value. What was not anticipated, but was fortunate, was the growing awareness that the issue of synthesis of disciplinary knowledge—how to integrate disciplinary knowledge into a more unified whole—was an important and widely recognized issue, but one that was not being addressed by researchers because its broad interdisciplinary nature was antithetical to research by the single researcher. Thus, although this thesis cannot claim the discovery of new information within the many fields it covers, it has attempted to advance conceptual understanding of those fields and of how multidisciplinary knowledge could be synthesized. In that respect, it is hoped that it has avoided the risks of superficiality and lack of focus, and enables enhanced professional knowledge in a specialist area.
Thus it was with Flexner’s *Universities*. Flexner thought he was describing the ideal modern university—an institution whose outlines he had glimpsed at Johns Hopkins and Berlin and whose realization throughout America, England, and Germany awaited only certain reforms which he enumerated. Instead, as the passage of history has revealed, he was writing a valedictory to a university form which was already passing—already evolving to a new stage. In so doing, he preserved for us, in perhaps its purest and most completely reasoned form, the “idea of a modern university” at a crucial stage of its development, just as Cardinal Newman, seventy-five years before, had so eloquently preserved the “idea of a University” at an earlier, equally important, and equally passing stage.

—Clark Kerr: Introduction to *Universities: American, English, German*¹

Scholars working in the humanities would be well advised to … see how their work contributed to a larger project, how its distinctive emphasis fit together with others both humanistic and nonhumanistic. They would then be in a better position to understand their actual and potential contributions to knowledge as a whole and even to the culture at large. They would, in other words, be better able to address one of the most stubborn dilemmas in higher education, the perennial *crisis in the humanities*.

—Geoffrey Galt Harpham: ‘Beneath and Beyond the “Crisis in the Humanities”’²

It is not the strongest of the species that survive, not the most intelligent, but the one most responsive to change.

—Charles Darwin³

The Barbarian’s Gaze

In their satirical introduction to the book *Innovation & Tradition*, Elizabeth Bullen and Simon Robb, acting as ‘founding members’ of the ‘Committee for the Extermination of Arts and Humanities Funding’, cleverly parody what they imply is the unimaginative and myopic

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rationale of the ‘knowledge economy’, as publicly defined. That rationale, they find, as other critics have found, is always being promoted through the ‘aggressive dominant discourses of economic accountability and social practicality’. Neither Bullen nor Robb, nor the other critics, would claim to be offering an impartial view, nevertheless, there is much about the narrow instrumental reason they identify that can be parodied. The issue, though, is not a new one. Both the rationale and its parody have a long history. In 1918, Thorstein Veblen in particular had railed against ‘the conduct of universities by business men’, and had described their behaviour in terms usually reserved for moral delinquents. Veblen was grappling in his idiosyncratic way with the consequences of the new industrialism that was remaking the American economic and commercial landscape, and was despairing of what he perceived. For Veblen, businessmen were barbarians and their ‘barbarian culture’ was pragmatic, utilitarian, worldly wise, and its learning partakes of the same complexion. The barbarian, late or early, is typically an unmitigated pragmatist; that is the spiritual trait that most profoundly marks him off from the savage on the one hand and from the civilized man on the other hand. “He turns a keen, untroubled face home to the instant need of things.”

With Veblen, as with Bullen and Robb, the implication is that there is a logical antithesis between practical, utilitarian, concerns, and aesthetic, civilized, concerns. Money, along with its acquisition and distribution, is of the former type (except for salary of course—that is more complex). In 1988, when in Australia, Bernd Hüppauf, then Professor of German at New York University, commented bitterly on the ‘vulgar economism’ used by the

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Australian Government to justify the restructuring of the Australian universities. Hüppauf complained that simply because of the ‘disturbing structural deficiencies’ the Australian economy was suffering, the Government proposed to make the universities ‘instrumental in the process of economic therapy’. ‘Vice-chancellors’, he declared, ‘not only appear to accept such a crude approach to their institutions but are prepared to act as the Minister’s [John Dawkins] auxiliary calculators’.9 In 2005, James Simpson, the expatriate Australian medievalist on a visit to Australia from Harvard University, observed that Harvard was a refuge from the ‘bullying, insistent governmental interference’ that confronts the humanities in Britain and Australia. ‘The reality is’, he said,

that people go into university life for a vocation. They don’t need to be pressed and harried and calibrated and audited and pried into at every turn because they’re driven through vocational commitment to transmit a certain culture. Government has instead applied a managerial, commercial model to universities, which is a fundamental error.10

A fortunate life spoiled, unfortunately, by others.

The clear message in this civilized discourse is the inappropriateness and intellectual crudity of mixing market philosophy with the higher intellectual aspirations and ideals of university practice; and with the Australian situation, that the changes are the result of choice enforced by an insensitive Government and supine administration. But behind that message is the assumption that the arts and humanities are not getting the funding they deserve because Governments and others are unable to recognize their true worth. Unfortunately, missing from the discourse is identification of the mechanisms—the exchange process—by which the barbarians, who pay, agree on the value of the ‘certain culture’ that is ‘transmitted’ to them. In the actual dynamics of the real, perhaps barbarian, but not theoretical society in which we all live, sellers need buyers, and both need to accept the exchange conditions no matter how unenlightened the buyer, and enlightened the seller. The academic culture is a

9 Bernd Hüppauf, “Universities and Postmodernism” in Simon Cooper, Scholars and Entrepreneurs, 11.
particularly significant segment of the wider socio-cultural system, and the arts and humanities are a fundamental part of that segment. There is no doubt that they have an important role in the exploration and transmission of forms of cultural perception and understanding. However, they are just a sub-set of the larger socio-cultural system—one sub-set amongst others. They may seek to understand and influence the larger system, but they cannot stand outside it. And they are affected no more and no less than any other segment by macroeconomic change. They must adapt, as others must, if they are to survive. And clearly, the implication of choice is wrong. No-one would argue that Government funds are unlimited, or even sufficient to provide everyone with the money they claim as their just allocation.

Further, the massive structural change that Australia in particular has been undergoing over the last twenty-five years has been a consequence of global economic change. The very large, adverse, changes to Australia’s terms of trade alone would have been enough to force significant social and fiscal change. But of course, they have been just one of the many interrelated economic, technological, and cultural factors that have caused change. In the early 1950s Australia had just 30,000 university students in a population of just under 9 million. In 2003 that number was 930,000 in a population of 20 million.\(^\text{11}\) To imply that one could choose to allow time-honoured assumptions and practices in universities to be unaffected, is either mistaken or disingenuous.

None of this is to deny the essential social role of critical and creative thought. The disastrous environmental and psychological effects of uncontrolled industrialization and mindless consumerism are obvious; and the potentially insidious moral and social effects of unbounded applications of technology to genetics, for example, are beginning to be sensed. Nevertheless, it would be a mistake to assume that the logic of economic management and business competitiveness is somehow irrelevant or destructive to the more intellectually elevated logic which the parodists imply is the proper business of the university. The

inescapable, if unpalatable, reality is that the university as an entity is as much a part of a particular business sector as is, say, a telecommunications company part of another business sector. ‘Business’ is the context which frames the university. Money is required to enable it to function: thus budgets which relate expenditure to income must be determined, negotiated, approved, and met. The market exchange process is at the core of the relationship between income and expenditure, and thus the market exchange process is central to the university’s ability to survive—as it has been since the first formation of the university in Bologna in the late twelfth century. The university then was satisfying social, political, and commercial needs, just as it is today. Two parties: the university as one, and either the Church, State, or private or public patrons as the other, must reach agreement on ‘value’, however defined, and each must agree on price, however defined. For the university, the point is to define what it is that it is selling, what value its products provide, and what conditions of trade are acceptable.

None of these questions are easily answered. Any product is merely the vehicle for the perceived ‘good’ that it delivers. The perceived ‘good’ is the real product. Thus it is the perceived ‘good’ that must be identified, its value agreed, and its price determined. Fortunately for the arts and humanities and social sciences, intelligent answers to these questions are impossible without their critical input. Not even barbarians would claim that a meaningful life is irrelevant, or that it can be acquired through science and commerce solely. Nor would they be likely to deny that wisdom and understanding require deeper soil than science and commerce alone can provide. And although they might argue that the university cannot claim wisdom and understanding as its exclusive province, they are likely to affirm a strong, intuitive, belief in the idea of the pursuit of ‘truth’ and the indispensability of rational inquiry and intellectual freedom to that idea. They are likely to affirm also that the modern university is the site most closely associated with intellectual independence and disinterested inquiry. That is the characteristic that distinguishes the university from others in the marketplace. Intellectual independence and disinterested inquiry are the concepts that define its business identity. The market place perceives cogitation to be the university’s specialist skill, and a distinctive intellectual acuity to be the necessary attribute of its academic employees.
Of course the life-cycle durations of universities and companies are quite different; years for companies, centuries or half-centuries for universities; however, both entities arise, grow and evolve—or decline and die. Their product definitions, ‘value-propositions’, target markets, and measures of customer satisfaction and business success are different, but certain foundational principles apply to both. They must identify products (distasteful as that word may be) for which only they have the distinctive capabilities to produce; they must establish effective, acceptable exchange conditions for the products—in other words, establish an effective business model—and they must maintain the desirability of the products as circumstances change. The university cannot assume an intrinsic social or cultural superiority because of the intellectual nature of its product. Nor can it claim that an academic product such as, say, social critique, is intrinsically more valuable than an industrial product such as, say, the mobile phone, unless certain existential assumptions regarding the nature of society, the individual, and value, are accepted as truths. In judging value who other than the ‘citizen’ can act as the impartial third party? There is no ‘higher’ court.12

Even in terms of knowledge, the ‘intellectual’ product cannot assume superiority. There is no absolute definition of knowledge. Discursive, logocentric, knowledge is only one form of knowledge. The global mobile computing software network, the computing core, the exotic materials of the mobile devices, and the skills required for their fabrication and construction, represent very high levels of intellectual abstraction, and very advanced levels of ‘new’ knowledge.13 In comparison, it might be argued that much social critique is simply recycled old knowledge—recycled ‘immanent critique’—the application to contemporary settings of early twentieth-century critical theory, and as such, not new knowledge. But such

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12 Paul Ricoeur in a discussion of the ‘historian and the judge’ (in the context of the ‘great crimes’ of our era) says that in order to arbitrate the differences between the two, we need an ‘impartial but not infallible third party.’ This third party is ‘the citizen’. Hayden White comments that this is not to imply that the informed judgements of the historian or the judge are to be overridden by the ‘ordinary man in the street’, but that ‘the actions taken on the basis of such judgments always have to be assessed on the basis of their adequacy to the ideals informing the goals and aims of the community’. Hayden White, “Guilty of History? The Longue Durée of Paul Ricoeur”, History and Theory, 46, no. 2. (May, 2007): 248.

13 Barry Hill argued recently that such ‘artifactual knowledge’ is a better definition of knowledge than the orthodox one using discursive, logocentric, criteria. Barry Hill, ‘Turning Back the Linguistic Turn in the Theory of Knowledge’, Thesis Eleven, no. 89. (May, 2007), 6–22.
a comparison is pointless. All that can be argued is that the products are very different and
serve different purposes.

Nevertheless, although very different, the artifactual and the cultural are never separate.
Culture determines use and value as much as ‘plain’ instrumentalism. In this age of the
‘wired world’ and the convergence of the social with the technological, the products from
each sector, though very different, are inextricably connected. Today, any social critique
concerning social relationships and cultural values can no more ignore personal
communication technologies, such as mobile phones and the internet, than can technology
companies ignore the effect of social relationships and cultural values on usage patterns and
markets. Each is embedded in the other. The university cannot stand a pace apart from the
commodified knowledge economy.

Parody as one may the values of managerialism and the business world, one thing that
that world can’t be accused of is misunderstanding the ruthless and unforgiving nature of that
environment. Successful companies understand that self-pity is wasted energy: energy that is
needed for maintaining their competitive edge in order to survive. No-one in, for example,
the Finnish multi-national company Nokia, the world leading company in its sector and with
net sales in 2007 of AUD $84 billion,\(^\text{14}\) could reasonably assume that the company will still
exist in ten years, or five years, unless somehow they maintain their competitive edge. They
understand that unless they can convince customers that Nokia has products that are capable
of satisfying the customer’s needs or ‘wants’ better than competitors’ products, and that a
price can be agreed that represents a fair exchange, then the company will fail, quickly.
Satirizing the customer’s taste and intellectual discrimination is not a viable competitive
strategy. Nokia clearly has formidable, very powerful, competitors, and Nokia must
understand not only technology but the way cultural and social patterns of acceptance and
usage of technology operate throughout the world. That knowledge and those understandings
are key determinants of market success. And the company cannot stand still. To maintain the

same competitive position it must continually evolve. The task is daunting. No-one but
shareholders, employees and creditors weep for failed companies.

Regardless of whether an enterprise is for profit or not for profit, it is a business; money
or its equivalent is required for its continued existence. Some-where, some-how, some-one in
either the demand chain or the supply chain pays for the expended effort. And some-where,
some-how, those that are paying need both to be satisfied that the exchange is ‘fair’ value,
however that may be judged, and to have sufficient reserves or income to make payment
possible. Coarse as it may be, the question ‘Who pays?’ remains central to any material
transaction. Regardless of theories on the ideological genesis of use-value and exchange-
value and of ideology’s constitutive role in the relationship between objects and desires (our
current understanding, in Jean Baudrillard’s view, is founded on the ‘ naïve anthropology of
homo economicus, or at best homo psychoeconomicus’), need, utility and price remain
central to real material exchange. The market axiom that something is only worth what
someone will pay, has yet to be disproven. Money does ‘talk’ in most people’s lives even if it
has a rather ambiguous place in critical theory. And to say that the barbarian knows the price
of everything and the value of nothing is to self-authorize one’s own values as normative.
There are no transcendental truths regarding how value should be perceived. As Richard
Rorty has observed, ‘diagnoses of illusion or confusion are just polemical ways of describing
your opponent’s distinctions, or their failure to make your distinctions. But distinctions are as
much up for grabs as anything else. There are no quick fixes.’\textsuperscript{16} James Simpson’s freedom
at Harvard is due as much to the fact of that university’s AUD $35 billion endowment fund,
its annual fundraising of AUD $725 million, and its operating income of AUD $3.7 billion, as
to an enlightened administration.\textsuperscript{17} Both are needed. The colour of barbarian money is not

\textsuperscript{15} Jean Baudrillard, inJean Baudrillard: Selected Writings, ed. Mark Poster (Cambridge: Polity
Press, 1998), 47.
\textsuperscript{16} Richard Rorty, “Holism, Intrinsicality, Transcendence”, in Dennett and His Critics:
\textsuperscript{17} Endowment fund as at December 2006; https://post.harvard.edu/mhr/vp/index.html, [3 May
2007]. Operating income year ending November 2006;
https://post.harvard.edu/mhr/balancesheets/net_assets.html, [7 May 2007].
without a certain charm.

II

The very language and metaphor of competition and survival used in argument such as this may seem to prove the point of the satirists: that there is something primary and primitive about the focus and pre-occupations of the business world, and it has missed the larger intellectual point. In their final thrust, Bullen and Robb use exactly this narrow, primitive, language to emphasize the vacuousness of that world-view. ‘Aesthetic knowledge and the aesthetic personality need to bend to the “whole-person” imperatives of the globalized knowledge economy. If they do not, they will be wiped away’, they taunt.\textsuperscript{18} Perhaps only those with non-aesthetic knowledge and non-aesthetic personalities are dispensable. Unfortunately, since aesthetic personalities produce neither food, clothing, shelter nor any other kind of physical sustenance or protection, then, unless they wish to die, they need the non-aesthetic personalities to carry on with their non-aesthetic activity. Even the money the aesthetes need to enable them to transmit a certain culture can only come, ultimately, from the non-aesthetic drudges. Those in the academy cannot exist in a closed aesthetic loop. Perhaps—with apologies to E. P Thompson—those whom Bullen and Robb speak for should see that it may be time to rescue the poor businessman, the marketer, the manager, and even the deluded followers of the economic rationalists, from the enormous condescension of intellectual contemporaneity. They have strategies for survival—can the parodists say the same?

But it would be a profound error also to assume that there is a simple opposition, and choice to be made, between the values of the marketplace and the values of the arts and humanities community. Both are needed. Corporate survival skills are valuable, and business thinking precludes neither subtlety nor abstraction. Conversely, no-one lives simply to work. Business is only ever a means to some other more meaningful end and the arts and humanities seem, from past experience, to be fundamental in some way to that end.

\textsuperscript{18} Simon Robb and Elizabeth Bullen, “A Provocation”, 7.
Similarly, it is as fatuous to say that the arts and humanities academic does not understand the heat of competition as it is to say that the businessman does not understand the ‘life of mind’. Clearly, just as there is complexity and subtlety in business theory and practice, so there is relentless, unforgiving, competition in academic practice and placement. The standard oppositions between culture and utility, intrinsic value and instrumentalism, ‘real world’ and ‘ivory tower’, are at best unhelpful and at worst destructive. The dyads are complementary, not oppositional. Their relationships are complex, but are symbiotic, not antithetic. To see them otherwise is a mistake, as Ian Hunter and Geoff Stokes have concluded. They note that in the ‘ordinary practical and theoretical reflections of the humanities’, there is a ‘remarkable blindspot’. ‘At the edge of its field of vision, precisely at the point where it is attached to the social body, the insight of the humanities academy fails.’ The relationship is not a battle between warring parties, they argue, but ‘a history of contingent and unpredictable interactions.’

But even that is to perpetuate a view that the academy exists at a point outside society, that the academy interacts with society as other, whereas the reality is that the academy is just a collection of members of society who have specialized in a particular type of work and organized themselves in a particular way to improve effectiveness. If these contingent and unpredictable interactions are to be successfully negotiated, then the academy must assess, as business does, the strengths, weaknesses, threats and opportunities affecting them, and then develop the strategies required for them to survive and prosper. In particular they must accept that change is inevitable, and must cultivate an intellectual flexibility that enables them to respond appropriately. ‘It is not the strongest of the species that survive,’ Charles Darwin concluded, ‘not the most intelligent, but the one most responsive to change.’

At times of general prosperity and rising public spending on education, the blindness Hunter and Stokes note may appear to cause few problems. When Clark Kerr (then President

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20 World Bank, Constructing Knowledge Societies, 1.
of the University of California at Berkeley) delivered his influential Godkin lectures at Harvard University in 1963, he noted that ‘it was … a good time for the American research university, already taking its place in world leadership.’ That period, he felt, was the American universities’ ‘Golden Age.’\(^{21}\) But even in America in the 1960s there were complaints from within the university system itself of a reflexive blindness; that graduate academic departments had become ‘autotelic’. The critics observed that ‘to suggest that the advancement of a particular academic discipline [was] not synonymous with the advancement of the human condition [was] to be regarded as myopic’.\(^ {22}\)

This reflexive blindness may be incidental during a golden age, but in times of adversity it can be ruinous. And assumptions which induce a culture of complaint can be equally ruinous. They reduce the humanities’ energy, creativity and effectiveness just when those qualities are most needed. The ability to negotiate change successfully is an essential survival skill for any organism or organization. Energy wasted on complaint is better spent on creative response to the divergent forces affecting, and threatening, the organization. An outstanding feature of the most successful American universities has been their sensitivity and speed of response to market forces; their disposition to respond, as Clark Kerr has noted, to ‘the current reality and not a glamorized perception of an earlier reality’.\(^ {23}\) Recently, the Vice-Chancellors of eight of Australia’s leading universities, in their policy discussion paper delivered to Government, noted:

> The contemporary research university must be an adaptive institution evolving in the changing society—it cannot live outside the forces of its transformation. Its legitimacy depends not on what it has achieved in the past but on what it is becoming and how it can contribute in the future.\(^ {24}\)

\(^{21}\) Clark Kerr, *The Uses of the University* (Cambridge, MA.: Harvard University Press, 1995), 166.


The arts and humanities disciplines must be clear on what business it is that they are *part of* and why their specialist skills are indispensable to that larger enterprise.

**University Business**

Despite idealistic, philosophical, or theological, notions of the ‘idea of a university’, and even if the concept of ‘customer value proposition’ is not used, the question of money has long been central to the university’s operation. The idea of ‘knowledge for its own sake’ has never existed in isolation from some notion of utility, no matter how abstract. The idea became institutionalized in the nineteenth century German university environment, but was never separate from *realpolitik*. In the University of Berlin, the idea’s value had been identified as enabling the Prussian people (and hence the State) to achieve their ‘highest possibilities’.\(^{25}\)

But scholarship and *realpolitik* at the local level were not always so elevated. When, as a young scholar, Friedrich Wolf at the University of Göttingen told the Rector, Heyne, that he wished to study philology, Heyne’s reaction was to ask Wolf who had been so stupid as to give that advice. In Heyne’s view that choice was ‘the straight road to starvation’ since ‘there were hardly six good chairs of philology in all of Germany.’\(^{26}\) Lord Robbins in his 1963 report on higher education in Britain (quoting from the Analects of Confucius) observed that ‘it was not easy to find a man who has studied for three years without aiming at pay’.\(^{27}\)

The *Privatdozenten* at the University of Berlin and the tutors at the Universities of Cambridge and Oxford in the nineteenth century were very aware of the relationship between ‘customers’ and income. Professors also. R. Steven Turner has commented that German professors, ‘especially those in the arts or philosophical faculties’, in the early nineteenth century ‘depended heavily on student fees to supplement their small government salaries’.\(^{28}\)

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\(^{25}\) This will be discussed in Chapter 2.


\(^{28}\) R. Steven Turner, “University Reformers and Professorial Scholarship in Germany 1760–
According to F. M. Powicke, Thomas Tout in his later years liked to describe the ritual observed at the professorial lectures in the Taylorian Institute ‘when those who attended were still required to deposit their fee in a box on the professor’s desk’. 29 Sir Charles Oman in his memoir of Oxford described the appointment of fellows and the heat that generated because of the fellows’ entitlement to stipends and portions of college income. It was ‘preposterous’, he wrote, that ‘the celibate lay-fellows of 1857–77 who had not taken up academic work … should draw several hundreds a year from a college’. Professor-fellows, he complained, were often ‘intruded by an external force’ and the excuse of ‘college finance’ was the ‘usual hindering plea’ for postponing the creation of a chair. 30 Mark Pattison lamented that ‘the leading men of our university’ had put ‘out of sight’ all ‘the objects of science and learning for which a university exists’ in favour of ‘consideration of the means of endowing them’. 31 Recently, Sander Gilman described how ‘graduate students and younger faculty’ were asking with some anxiety ‘(quietly and in private) about their own future, not in the world of high theory, but in the academy in general’. 32

Financial considerations were central also, of course, to potential students. In America prior to the land-grant era, university education was an expensive undertaking. Some of the appeal of the German universities to the American students who attended them throughout the nineteenth century was the fact that they were cheaper. In 1889, a year of study in Germany, including the cost of travel, was approximately one-third cheaper than a year at Johns Hopkins, Harvard, or Cornell. 33 As a consequence, German universities received a large number of American students. In England also, a university education was expensive. Four years residence at an Oxford college in the 1850s was very expensive. When the ‘sober

30 Sir Charles Oman, Memories of Victorian Oxford: and of some early years (London: Methuen, 1941), 193, 195.
31 Mark Pattison, Memoirs (London: Macmillan, 1885), 90.
33 Laurence Veysey, Emergence of the American University (Chicago: The University of Chicago Press, 1965), 130.
young man of thrifty habit and sound schooling would run up bills of over £150 a year,’ the
cost was one few could afford.34 Lawrence Stone claims the cost to be ‘between £200 and
£250 a year in the early and mid-19th century’.35 By comparison, in 1850 the salary of the
Oxford Regius Professor of Modern History was £400 a year.36 Nevertheless, without
students, there would be neither discipline, nor college, nor university. When the University
of Manchester established the research doctorate after the First World War, a primary reason
was the desire to attract the American students who had gone to Germany.37

In Australia the question of utility and value and their relationship to income and
survival has always been very close to the surface. Although the modern consumer-market
jargon is not quite that which he used, William Hearn, the inaugural professor of modern
history and literature, political economy and logic, at the University of Melbourne, certainly
accepted the market framework for an understanding of the value of the academic enterprise.
In an argument that he and William Wilson, the inaugural professor of mathematics and
natural philosophy, advanced to Redmond Barry (the University Chancellor) against the
compulsory teaching of classics, they expressed the view that many parents thought that ‘a
classical education was a bad preparation for industrial life’ and that these parents ‘would not
send their sons to the university if the classics were compulsory’. Consequently, examination
of such a ‘suicidal’ decision was of great importance.38 It was a consistent view. Six years
earlier, in Galway, Hearn had argued in very modern marketing terms for the newly
established [Queen’s] College of Galway to understand what was its product, what was its

34 James Heywood, The Recommendations of the Oxford University Commissioners (London,
1853), 204, quoted in Peter R. H. Slee, Learning and a Liberal Education: the study of modern history
in the universities of Oxford, Cambridge and Manchester 1800–1914 (Manchester: Manchester
35 Lawrence Stone, “The Size and Composition of the Oxford Student Body 1580–1909”, in The
International History: Essays Presented to W. Norton Medlicott, Stevenson Professor of International
37 H. B. Charlton, Portrait of a University 1851–1951: To Commemorate the Centenary of
Manchester University (Manchester: Manchester University Press, 1951), 93.
38 Hearn and Wilson, “On the Proposed Course for the Degree of Bachelor of Arts in the
University of Melbourne”, Argus (Melbourne), 1855, 2, quoted in R. J. W., Selleck, The Shop: The
competitive position, and what was its customer value proposition. As Richard Selleck has described, Hearn argued that a new university had to prove that it produced ‘the article which it brings into the great market of the nation, either better than its rival [Trinity College, Dublin], or at a cheaper rate, or both better and cheaper … [this principle was] as applicable to education as to any other question in which the interests of the public are concerned’.

Further, he argued that Galway was freer than its competitor, Dublin, in its choice of offered subjects. Galway, therefore, could introduce students to a wider range of knowledge through subjects such as foreign languages, history, chemistry, natural history and English language and literature. ‘A great truth’, Hearn said, ‘was becoming universally recognized:’

unless any business be beneficial to the public at large, and not to the projectors merely, to the consumers, if I may so speak, and not to the producers alone, it must be undeserving of support and ought to be allowed to fall.39

They are words that would make an economic rationalist beam, but not all colleagues of Hearn’s shared his opinion. Charles Pearson was one who did not.

Pearson, the newly appointed lecturer in history, complained in a letter to Charles W. Eliot40 that his fellow professors were ‘essentially of the practical type’ and regarded knowledge as a ‘saleable commodity’.41 Pearson’s views on the purpose and function of the university differed from Hearn’s; particularly, it would seem, on what was meant by the terms ‘commodity’, and ‘saleable’. However, at issue was not the principle of exchange, but disagreement on, first, what knowledge has value, second, who decides that value, and, third, what needs the knowledge satisfies. If one accepts the modern marketing definition of a product as something which is capable of satisfying a human need or want,42 that this capability is exercised through an exchange process between two parties where each party has something that could be of value to the other, and that the terms of exchange can be agreed,

40 In 1868, a year prior to Eliot being appointed president of Harvard University in 1869.
41 Selleck, *The Shop*, 143.
then the question becomes one of what persons, groups, or organizations represent the
‘parties’ and how value is agreed. The term ‘saleable commodity’ is not pejorative in itself: it
depends on the nature of what is offered and what price is agreed. The issue Pearson raised is
not so much about the nature of the product, in this case a ‘knowledge’ product, but the nature
of the transaction. The process Pearson referred to was not one transaction, but two. Both
Hearn and Pearson were being paid to deliver. Their negotiation as individuals was with their
employer. When lecturing they became simply the public face of their employer. It was their
employer who had judged knowledge to be saleable and who, in turn, had come to an
agreement on price with whomever it was that gave the university money—perhaps students,
perhaps the Government, or both. Hearn and Pearson, long before their appointments in
Melbourne, had clearly decided on the saleability of knowledge when they chose an academic
vocation and accepted employment with an academic institution.

Historians would be cautious about assuming that they understood the full context in
which those words of Hearn’s, or Pearson’s, were spoken. The similarities with current
discourse are obvious, the silences are not. Nevertheless, it seems reasonable to propose that
Hearn thought of academic activity as a business and Pearson did not. Although as he,
Pearson, had demonstrated a keen sense of his own worth during the salary bargaining
process on selection, he may have been a little narrow in his definition of ‘saleable
commodity’. 43 With regard to Hearn, John La Nauze has noted that at Galway

there was no great future for an ambitious and able man with a young
family—and Melbourne offered the enormous salary of £1,000 a year, a free
house, and other emoluments—in real terms an income far higher than that
of any university professor today. It is no wonder that three of the first four
Melbourne professors came from these Queen’s Colleges. 44

Money, though coarse, has little accent or odour, and it can have a higher purpose. In the
report of the Cambridge University Commission of 1852, the salary for the Professor of Law

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44 J. A. La Nauze, “The Frontier and Scholarship”, The W. E. Hearn Historical Lecture for 1965,
was £312, for the Regius Professor of Modern History was £421, but that of the Regius Professor of Divinity was £1,209, and that of the endowed divinity chair: Lady Margaret’s Chair of Divinity, was £1,854.45 Praise be given!

But there are many other considerations than money, of course. Certainly, the assumptions on which the Hearn-Wilson argument was based were not ones which at first glance appealed to Redmond Barry. Barry, forty-one years old, an Irishman and third son of a Major-General, educated at Trinity College, Dublin and the senior puisne judge of the Supreme Court of Victoria, had, at the foundation of the University, declared that the University was ‘instituted in honour of God, for establishing young men in philosophy, literature and piety, cultivating the talent of youth, fostering the arts, and extending the bounds of science’. The value proposition proposed by Barry was, clearly, derived from quite different criteria than those Hearn used. In Barry’s view the university’s mission was to form the character ‘not of individuals, but of the nation’. The implied need was that of the community’s, not the individual’s as such. His offer was to the community of Victoria. Barry had firm views on the role cultural institutions should play in that mid-nineteenth century community. The implied exchange was between an institution, with its unique knowledge product, and the State, with its unique knowledge needs. The parties to the negotiation would be the State and the authorised representative of the University. Nevertheless, the indisputable fact is that Barry’s ‘value proposition’ was only an offer until buyers could be found, and an agreement struck on what the buyers were willing to pay. Barry was an effective salesman and negotiator and found the Government to be a very receptive and satisfactory customer. They did much business and the community gained, in addition to the university, an excellent public library and art gallery.

45 Cambridge University Commission Report of Her Majesty’s Commissioners into the State, Discipline, Studies and Revenues of the University and Colleges of Cambridge (London: HMSO, 1852), 71.
47 Proceedings on the Occasion of the Inauguration of the University of Melbourne (Melbourne: Government Printer, 1855), 22, quoted in Selleck, The Shop, 44.
Less business was done with prospective students or parents of students. Sixteen students were enrolled when the university was inaugurated. Their needs were individual, the utility to be delivered more practical. In an editorial referring to the university’s curriculum, *The Age* newspaper stated unequivocally its view of what the colony needed: ‘However excellent and valuable classical education may be in itself, it is precisely the kind of education which they [the colonists] do not want; since it is utterly unsuited to the place, the time, and the character of the population’. What was needed it said was ‘emphatically and pre-eminently, practical culture,—culture that will enable us to develop the resources, and lay strongly and firmly the social and political foundations of the noble country which Providence has given us’.

Agreement on what ‘certain culture’ needed to be transmitted still had to be reached.

II

*The Age*’s view was representative of one that existed not just in Australia, but America and England as well. In England it was from a number of sources. One was the pressure exerted on universities by the rise in importance of natural science; a pressure manifested in agitation to broaden the curricula to include ‘modern subjects’ so that the universities were ‘more productive and useful’. In this it was encouraged also by scientists whose desire was to improve their professional status. Another source was Utilitarianism with its ethic of social usefulness. T. W. Heyck has argued that, particularly in the 1820s and 1830s, the utilitarian ethic had generated the desire ‘to make all institutions conform to middle-class values of work, productivity and efficiency [and] to make the universities more useful to the main activities of the nation—mainly to business and industry’.

But ‘usefulness’ to business did not always mean just the sciences and ‘practical culture’. Fifty years earlier, in Manchester, the ‘Reverend Thomas Barnes D.D.’ read a paper

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48 *Age* (Melbourne), 3 March 1855, 4, quoted in Selleck, *The Shop*, 46.
49 Linked to this also was an ambition to convert universities into research establishments.
before the Manchester Literary and Philosophical Society on ‘A Plan for the Improvement
and Extension of Liberal Education in Manchester’ in which he was hopeful that ‘the happy
art’ might be learned ‘connecting together liberal science and commercial industry’. Dr.
Barnes explained, in sentiments more aligned with Barry’s, that

The object to be aimed at is, to give a boy in those intermediate years, to
which alone our plan extends, that degree of knowledge and of taste, which
makes him more than the mere man of business [italics in source] in future
life.\(^{51}\)

There had been a ‘liberal and comprehensive’ institution established in 1755 at Warrington
near Manchester (the Warrington Academy) by the English Presbyterian Protestant Dissenters
of Manchester to provide instruction in theology, moral philosophy, logic, metaphysics,
natural philosophy, languages, and ‘polite literature’.\(^{52}\) But it wasn’t until 1851 that a
university, Owens College, was established—and then it was a businessman that made it
possible.

Owens College was named after its benefactor, the businessman John Owens. For,
although a barbarian, Owens believed deeply that social progress was to be secured through
education.\(^{53}\) Owens had held ‘very strong views about the injustice of the university tests
which shut out Nonconformists from the colleges of Oxford and Cambridge’, and determined
that his college should be ‘absolutely unsectarian … without any test of creed, or
subscription’. The inscription on his gravestone records ‘his zeal for the advancement of
learning and science’.\(^{54}\) The Reverend Barnes would have been pleased to observe that
Owens was not just ‘the mere man of business’; but then, few businessmen are.

In America, similarly, there had long been a utilitarian dimension to the question of
value and university education. Forty years before Dr. Barnes made his proposal, Benjamin

\(^{51}\) Memoirs of the Literary and Philosophical Society, ii, Second ed., 1789, 16, quoted in Joseph
Thompson, The Owens College: Its Foundation and Growth and its Connection with the Victoria
University, Manchester (Manchester: J. E. Cornish, 1886), 4.

\(^{52}\) Thompson, The Owens College, 2–3.

\(^{53}\) Charlton, Portrait of a University 1851–1951, ix.

\(^{54}\) Thompson, The Owens College, 44, 45.
Franklin expressed his desire for the College of Philadelphia, now the University of Pennsylvania, to produce ‘a more useful culture of young minds’. He was interested in training people for agriculture, commerce, exploring science, and wanted education to ‘serve mankind’.\textsuperscript{55} In the decades after the Civil War, the links between higher education and wealth strengthened, moving higher education ‘much closer to the ways of thinking shared by the practical and the wealthy’.\textsuperscript{56} The view of prominent academic donor Ezra Cornell was that the university was ‘a place where everything useful in high and broad sense may be taught’.\textsuperscript{57} Charles W. Eliot, the Harvard President, ‘wished that the sharp line between an educated and a practical man might somehow simply disappear’.\textsuperscript{58} David Starr Jordan, the Stanford President, declared that the whole university movement ‘is toward reality and practicality’.\textsuperscript{59} Under the Morrill Act of 1862, the federal government offered aid to states which would support colleges that would provide instruction in ‘agriculture and the mechanical arts ... in order to promote the liberal and practical education of the industrial classes’.\textsuperscript{60} Although progress was gradual and uneven, this marked the starting point for state support for higher education.\textsuperscript{61}

Not only was usefulness incorporated into the ethic of higher education, but by 1918, when Veblen was excoriating the ‘business principles’ that reduced education to a ‘commodity, to be produced on a piece-rate plan’, liberal education had become part of, rather than an alternative to, the industrialization he so abhorred. The department store magnate Edward Filene in 1919 concluded that liberal education was needed to enable a more

\textsuperscript{55} Benjamin Franklin, \textit{Proposals Relating to the Education of Youth in Pensilvania (sic)} (Philadelphia, 1749), quoted in Clark Kerr, \textit{The Uses of the University}, 9.
\textsuperscript{56} Veysey, \textit{The Emergence of the American University}, 3.
\textsuperscript{58} C. W. Eliot, \textit{Educational Reform} (New York, 1898), 224, quoted in Veysey, \textit{The Emergence of the American University}, 71.
\textsuperscript{59} D. S. Jordan, \textit{The Voice of the Scholar} (San Francisco, 1903), 46, quoted in Veysey, \textit{The Emergence of the American University}, 61.
\textsuperscript{60} Marty Wechselblatt, “The End(s) of the University in the Information Society”, \textit{Antipodes}, December 2002, 16, no. 2: 186.
\textsuperscript{61} Veysey, \textit{The Emergence of the American University}, 15. Nevertheless, there were earlier educational foundations that had a religious purpose but were supported by the state, for example, Harvard.
efficient industrialized society. ‘Mass production’ he said, ‘requires the education of the masses; the masses must learn to behave like human beings in a mass production world ... They must achieve, not mere literacy, but culture’. Filene may have spoken in the language and with the intent of the early twentieth-century arch-capitalist, but the end-result he desired was identical to that of the late eighteenth-century theologian and humanist, Dr. Barnes.

Thus the idea of the commodification of knowledge, of culture as a ‘product’, and the primacy of the criterion of utility, disdained by Bullen, Robb, and others, have a long pedigree. As has the idea of a ‘knowledge industry’. In 1892 Thomas Huxley expressed the view that ‘The medieval university looked backwards; it professed to be a storehouse of old knowledge … The modern university looks forward, and is a factory of new knowledge’. Consequently, the issue is not so much about the commodification of knowledge—which, like capitalism, is with us through social evolution not barbarian fiat—but rather the role of the university in the production of ‘useful’ knowledge, and role of the arts and humanities in enabling the university to perform that role. Unarguably, the arts and humanities have an indispensable role in helping to find agreement on what ‘useful’ means. And even the most keenly instrumental businessman would acknowledge the connection between the arts and creativity, and thus design and innovation. But the fact that the arts and humanities feel marginalized in those discussions indicates a conceptual disjunction between market and academy.

For some in the humanities academic community, the current market framework in which knowledge is now produced and circulated may seem distasteful or inimical to the perception of an earlier, more desirable, reality. But this is the current reality. If—to use the language of this cruder reality—the humanities as an entity is to survive, then the real issue is how to adapt and refine the mechanisms by which their research-derived abstract products engage with the market processes of the ever-changing post-modern society.

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62 Wechselblatt, “The End(s) of the University in the Information Society”, 185.
63 Letter from T. H. Huxley to E. Ray Lankester, 11 April 1892, quoted in Kerr, *The Uses of the University*, 158.
In order to maintain relevance and agency in a continually changing world, the products must continually change. This is a business task, and business has developed modes of analysis and principles and techniques to help them to adapt successfully. The barbarians may lack a certain culture, but they don’t lack a certain alertness and an ability to learn quickly from experience. Indisputably, the lessons learned and management knowledge accumulated by them over more than one hundred years of professional management activity have more than a certain value.

The Business of the University

In 1960, the Harvard Business Review published an article titled ‘Marketing Myopia’ by Theodore Levitt. The article—which Levitt later defended as ‘a manifesto, not a prescription’—became one of those seminal business articles published by that journal which was the catalyst for industry-wide conceptual change. Most business graduates and executives would have known its theme even if they had not read it. In it, Levitt argued that failures of various industry sectors and individual businesses were the result of management not identifying or understanding “what business they were in”. His argument was that market definitions of a business or industry are superior to product or technological definitions because products and technologies are transient while basic market needs—underlying social needs—are, relatively, unchanging. For example, Levitt argued that the ‘railroad’ companies should define themselves as being in the transportation business, and oil refiners as being in the energy business—they had to ‘think of [themselves] as taking care of customer’s needs … management must think of itself not as producing products but as providing customer-creating value satisfactions’. He made the point that there is no guarantee against product obsolescence, that if a company’s own research did not make a product obsolete, then another’s would. One example that he used—the ‘buggy whip manufacturers’—became

famous. Throughout business schools and working groups, managers tried to identify the business that would have enabled a buggy whip manufacturer to be independent of the fate of its, then, major customer group. Perhaps ‘flagellation’ suggested one writer irritated by the increasingly unrealistic suggestions being offered in the business literature. ‘Buggy whip manufacturer’ became a key signifier in management discourse, acting as both warning and catalyst. It is a function it still performs.

The article had an immediate impact on business thinking. Companies rushed to redefine themselves and the ‘business’ they were really in. It stimulated, for example, according to marketing folklore, a new managing director of Parker Pens to identify that the company’s greatest competitor was not the Shaeffer pen company as had been assumed, nor was it any other product whose purpose was writing or communication, such as the telephone—it was the Ronson cigarette lighter. The reason was that analysis of sales data showed that the majority of purchases were made by individuals buying the pens as gifts for other people. When considering what to buy, often an alternative was a quality cigarette lighter. Thus the company assessed itself to be in the ‘quality gift market’ which, consequently, had widespread implications for product development, packaging, advertising, distribution and pricing.65

As Levitt’s premise was the inadequacy of management vision, the purpose of his article was to broaden the vision of managers. In that objective he undoubtedly succeeded, however, in some ways he was too successful. His article encouraged managers to believe that a simple redefinition of themselves would ensure success, whereas the reality was that redefinition alone was disastrous. The questions: ‘What is our business?’ and ‘What should it be?’ are among the most difficult questions a company, or any organization, will ever have to answer. There is no single correct answer to the question of whether a company should build on existing capabilities or develop new ones; stay in existing markets or find new ones.

Many companies never achieve agreement on those questions, for the simple reason that organizations and their environments are never stable, their interactions and reactions unpredictable, the variables almost unlimited. There are always a number of potentially successful strategies, and many potentially disastrous ones, however, the underlying theme of successful ones seems to be that of building on strengths while mitigating weaknesses.

Most market-based definitions—‘business’ definitions in Levitt’s terminology—are too broad to provide real direction. Very little in the world is not related to energy, health, entertainment, transportation, or knowledge, for example; and very few companies have strategic capabilities that are as varied and adaptable as required to allow them to move much distance from their assigned market location. The market, intrinsically, is no more important than a product or a competence. Distinctive competencies are critical to success. Had Parker Pens determined that it was their core competency in ink technology which best assured their future, they might have become the dominant supplier of ink cartridges to the office equipment industry. Today, a strategy which identifies the cigarette lighter as a key competitor might seem a poor one. Similarly, a few words on paper and unanimous agreement by an executive board do not mean that a railways company can operate an airline effectively, or that an oil refiner can make fuel cells competitively. For every company that profited from this heightened sensitivity to customers and consumers, there were others for whom it was a disaster—a consequence which Levitt acknowledged in his retrospective commentary published fifteen years later.

The underlying problem with the manifesto was that when taken as a prescription, as it was by many companies, it was too simplistic and reductive. It encouraged rupture with the past and the introduction of new business paradigms. However, experience showed that effective management of change required adaptation rather than rupture. There is always present continuity with change, even during the most violent re-adjustments—in institutions.

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66 But, nevertheless, no less important, they are all important and interdependent—three legs of a three-legged stool.
as old as universities, most markedly so. Form may change, but function, linked as it is to competence, is more constant. What companies need to do most is to be environmentally sensitive, organizationally adaptive, but critically aware of their intrinsic distinctive competence. They need to identify what the ‘real’ competence is that sustains the business, and focus their research effort in that direction, at the same time recognizing that an effective business model is essential if competence is ultimately to translate to profit.

Although Levitt’s article had flaws, which Levitt acknowledged in his retrospective commentary, there were important generalizations that could be made.\(^{68}\) To survive—let alone be successful—an organization needed to balance an internal focus with an external focus. Thus it had to balance an internal focus on ‘materials and methods’ with an ‘external orientation towards uses, users, and markets-balancing’. Strategically this meant that companies needed to ask themselves ‘whether they wished to be masters of certain technologies, for which they would seek markets, or be masters of markets for which they would seek customer-satisfying products and services’. For complex products (as are the university’s) the former strategy tended to be the most appropriate, for simpler products, the latter, generally, would be more appropriate. However, whatever option chosen, one thing was central: continual development of products and capability was necessary. That was the one underlying theme in Levitt’s original argument which remained unchanged in his review, and he reiterated its critical importance. Industries and products are dynamic—yesterday’s growth industry is today’s obsolescent one. The product which yesterday appeared as the ‘runaway substitute’ for an earlier product, is today itself replaced.

It was one observation that was never challenged. To survive, a company must ensure that its products maintained their competitive advantage by continually evolving. Thus, the company’s intellectual property—the specialist knowledge which drives product innovation—was dynamic, it must continually ‘advance’. Yesterday’s specialist knowledge becomes today’s general knowledge. Today’s specialist knowledge, \(\text{as}\) specialist knowledge,
is always knowledge at the ‘leading edge’. By always ‘advancing’ it continues to be new knowledge—thus always specialist knowledge which, by definition, no-one else has. But it is only through research that specialist knowledge can ‘advance’. Only through research can specialist knowledge remain new knowledge (or new practice) derived from, but extending, previous knowledge. Consequently, knowledge concerned with human understanding—arts and humanities knowledge—to be specialist knowledge must always be knowledge at the limits of current understanding. The research from which it derives, explores meaning. It is knowledge of knowledge. Scientific understanding, on the other hand, is concerned with explanation, not meaning, as Dilthey first emphasized and others elaborated. Science’s research is at the edge of human understanding of causality, not meaning.69

For organizations whose technologies were complex (the university’s ‘technologies’—critical and experimental techniques—are complex), Levitt’s observation was simply reiterating a fact well known to them. The market ‘food chain’ is dynamic, not static. The maintenance of one’s position in that food chain requires continual advance. In effect, one has to keep climbing the food chain in order, even, to stand still. The company that yesterday made system components, today either integrates systems or makes more advanced components. The components which once only it possessed the knowledge to manufacture, are today being manufactured by less advanced companies. Without substantial, well directed research a company cannot hope even to survive, let alone prosper. For companies hoping to lead, leading research is required.

In 2005 Nokia employed 20,882 people in research and development activity—36% of their total workforce—and their research and development expenditure was around AUD $6.27 billion.70 In 2007, 30,415 employees were engaged in research and development activity (representing 27% of the workforce); expenditure was around AUD $9.26 billion and included increased collaboration with third parties such as the University of Cambridge.71

69 The split between Naturwissenschaften and Geisteswissenschaften is a theme which will be discussed in later chapters.
70 Nokia, Review by the Board of Directors and Nokia Annual Accounts 2005, 3.
The company’s business focus is now not only ‘mobile devices’, but multimedia and enterprise solutions. Nokia understands the link between research, development and survival. It understands that unless it keeps ‘climbing the food chain’, it will be eaten. In 2008 a new business group, Entertainment and Communities, was formed to move the company ‘up’ into the social networking field to which the video, game, and photo sharing capabilities of the new mobile phone technology could be applied. Entertainment and communities were the new strategic focus. The newly appointed head of the group commented: ‘Change is painful but you have to figure this out in order to be successful … the question is, are you willing to play by the new rules?’

II

The question that arises is how usable, really, are views such as these for a university or an academic discipline? Can any business philosophy—a style of reasoning that is so historically, culturally, and ideologically formed—be useful in the management of intellectual inquiry, in all its many forms, and with all its many epistemological and ontological implications? Does not that require a more intellectually complex and more conceptually open framework? After all, intellectual inquiry actually influences or changes the way value judgements are made, and how social reality is perceived. Epistemologically it is prior to historically and culturally located business paradigms. Perhaps. But while those may be valid observations, they are wrong if they mix the act of intellectual inquiry with its organization. The organization of higher education, and the role of the universities in that sector, is currently a concern of governments globally; widespread change and increased competition for funding is a common current feature of the higher education sector. These are predominantly business considerations, even if their rationale is unsubstantiated epistemologically and ontologically. Change remains an actuality. There is little doubt that

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73 Which includes not just what ‘business’ and ‘exchange’ means, but what they mean within the notion of a particular society; in other words the history, anthropology, and sociology of economics and exchange.
in the last half of the twentieth century there has been a trend for universities (certainly, those in Britain and Australia) to change from institutions which (in the nineteenth and the first half of the twentieth century) were elitist, collegial, and cloistered, to ones which are, increasingly, open, managed, and ‘virtual’. For the university, change needs to be conceptualized no less in business terms than critical terms if the university wishes to continue to function as an organization.

There is, however, an important distinction to be made between outer form and inner essence. While the form of the university may change, and access to the institution and its products may change, its essence remains unchanged, namely, the advancement, creation, and dissemination of knowledge. Research, scholarship, teaching, and learning are purely the functions that manifest that essence. But it is research that enables knowledge to advance. Scholarship cannot achieve that. Scholarship’s function is to elaborate and fashion the research outputs. If learning is not to be simply indoctrination, then it must be through teaching which relies on scholarship based on awareness of the latest research and on open thinking within a subject; otherwise it is just scholarship based on antiquarianism, custom, or ‘revealed’ truth. The latest research on which scholarship is based should have derived from an open, multifaceted intellectual environment. The distinctive competence of the academy is its ability to facilitate ‘pure’ inquiry conducted within a broad, truly multidisciplinary, open-ended, intellectual environment. Research institutions and research centres are always intellectual subsets—their fields of operation are purposely limited.

It is no coincidence that leading universities produce leading research. The research institutions produce leading research also. They, however, are not, nor are they designed to be, universities (in the nineteenth and early twentieth-century sense). Paradoxically, because of current economic-rationalist logic which demands of institutions a focus on ‘ends’, the university—as its idea—is the only site where the pursuit of ‘whole’ knowledge is possible. The paradox for the university is that its most valuable competitive tool in the instrumentalist world is its ability and freedom to pursue knowledge for its own sake. Other sites, by the fact
of deliberately differentiating themselves as non-universities, pursue more directed, applied ends.

If the pursuit of new knowledge is at the core of ‘knowledge economy’, then the fact that specialist knowledge can, logically, only be partial knowledge, means that a multi-disciplinary, integrative environment is necessary for the effective pursuit of more complete knowledge. The research university is the institution which is best able to satisfy that requirement. And, certainly, if it is accepted that the quest is the pursuit of more complete knowledge, then Geisteswissenschaften knowledge must be central to that quest; thus, the arts and humanities must be central to that quest. Further, since knowledge that does not contain Geisteswissenschaften knowledge is fundamentally limited, it could be argued that research that excludes Geisteswissenschaften knowledge is not true basic research, despite the fact that, under current international classification, the term ‘basic research’ refers to any disciplinary ‘pure’, non-strategic, non-applied, research. Perhaps such sectoral research should be considered more as strategic basic research than basic research since it is limited, channeled, inquiry. Basic research, in its purest sense, is at the leading edge of epistemological and ontological understanding, not simply at the leading edge of bounded disciplinary understanding. Basic research is what universities should be able to do better than anyone else.

In the cruder world of business competition, the best strategy for survival is to be one of the best in one’s field. For the true university, knowledge as knowledge is its natural field, thus true basic research is the means by which it advances in that field. The business philosophy discussed, however, is not seeking to manage the matter of intellectual inquiry. It is merely seeking to ensure that an organization: first, identifies the domain in which its distinctive competence lies; second, establishes proper structures and processes to allow that competence to be developed continually in ways that continually result in products that are desired by external agents; and third, that it has a business model that enables total product income to exceed total product cost. How a university and the disciplines within it satisfy
those requirements is the university’s and the discipline’s prerogative. It is also their responsibility.

The original question, however, (the usefulness of business theory) is spurious. Neither the university nor its disciplines are claiming to stand outside their own historical, cultural, and ideological moment. Their disquiet arose through the question of their funding and relevance in our current market-based, post-industrial, capitalist society. Even in the 1970s—the autumn of the ‘Golden Age’ of which Clark Kerr spoke—there was recognition of the reality that universities cannot stand apart. Lawrence Stone, writing from Princeton, commented that

The university like the family and the church, is one of the most poorly integrated of institutions … And yet, in the long run, no institution can survive in glorious isolation, and the interaction between the university’s own built-in conservatism and the pressures on it to adapt to new external conditions is one of the most potentially illuminating, but most practically obscure, aspects of historical change.74

Charles Rosenberg also, writing around that time, commented that ‘the marketplace’ is never removed entirely from the reality of even the most esoteric disciplines.75 Whether as the object of disciplinary critique, or as the context which frames the disciplines’ relevance, the marketplace is ubiquitous.

At the beginning of the twenty-first century, it is widely recognized that the view from the window of the twenty-first century university, particularly in Australia and Britain, is much less serene than that from Princeton in the 1970s. The eight Australian vice-chancellors quoted earlier were very aware that each institution had to look forward, not back; that the legitimacy of each depended on ‘what it is becoming and how it can contribute in the future’. Baroness Warwick, the chief executive officer of Universities UK, in a recent address


observed:

We have seen universities evolve from a focus on the classical, highly structured curriculum to fluid institutions where many kinds of knowledge—liberal and professional, general and specialised, religious and secular, theoretical and practical—vie for space. Universities may have very different missions: local versus national, teaching versus research, open access versus elite, vocational and professional versus liberal arts, distance learning versus campus organised; and there are surely more … There are many dimensions to diversity in a modern university. Yet increasing diversity of funding may represent the future for most universities … It would be surprising if universities did not evolve into many different forms.76

The British Government also, in its White Paper on the future of higher education, was clear that it expected diversity of mission. ‘Individual institutions [must] focus on what they do best’, it stated. Diversity (within the sector), the Government reasoned, would reduce competition within the sector and encourage collaboration among those with ‘complementary missions’. ‘In research’, it said, ‘this will help us preserve the best pockets of isolated research while concentrating funding on the very best’.77 Similarly, in 2005 the Australian Government, in an investigation of the approval and accreditation processes for Australian higher education, spoke of the ‘need for a diverse range of higher education institutions servicing different communities and varied requirements.’ It commented that this ‘will not be achieved through the “one size fits all” model … it is worth debating the requirement for all universities to undertake research as well as teaching’. And it asked: ‘Should universities be determined more by function and quality and less by form and structure?’78

In other words, for the British and Australian Governments, universities must work

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within a business paradigm; they must identify what they do best, and how they will do it, if they wish to survive. Clearly, then, business philosophy and technique can help substantially to illuminate the ‘practical obscurities’ Professor Stone identified concerning that adaptation to the marketplace identified as necessary by the British and Australian Governments.

There are, of course, several critical differences between the business organization whose purpose is the financial remuneration of a relatively small number of shareholders, and the university whose purpose is altruistic and idealistic service to society. Both are concerned with the creation and transfer of certain types of knowledge to the wider community, but for one the ultimate purpose of that knowledge transfer is a better financial return on invested capital than can be obtained elsewhere, for the other the ultimate purpose is social enrichment and transformation through the expansion of understanding. One is concerned with saleable products whose creation requires advancing knowledge, the other is concerned with new information whose understanding requires advancing knowledge—new knowledge of previously new knowledge. One, the for-profit company, works at the edge of applied knowledge and innovation, the other, the university, works at the edge of knowledge itself—the edge of epistemic and ontological understanding. The question for the university is how best to organize that inquiry, how best to transfer that understanding, and how best to secure sufficient funding to enable leading research at the leading edge of understanding.

The differences in core product of the two types of organization (both have many other products)—one core product being at one end of the research–development–production–sales chain, the other at the other end—mean that there are also critical differences in competitive strategy. For the for-profit company, research is irrelevant unless it finally results in a developed, manufactured, packaged, product that the market wants. For any university, the end products are irrelevant, no matter how popular, unless they reflect, however far removed, original basic research. However, as with for-profit companies, and as urged by the British Government, universities should pick a niche or range where they believe they can excel. In the British and Australian Governments’ view, a university may decide to concentrate on
teaching and leave basic research to other institutions. However, from the perspective of competitive strategy, that is a strategy which is second-best. The best strategy for those with complex products with relatively low volume and high costs, is to move to the market position that affords the highest barriers to entry for competitors (thus allowing higher product prices to be charged); then, through continual product development, to maintain that position.

Regardless of the urging of Governments, though, and despite the particular niche that best fits the competence of an individual university, one market ‘reality’ remains incontrovertible: the higher the skill requirement, the higher the barriers to entry, the better the competitive position, the better the chance of survival. Notwithstanding the symbiosis that exists between research, development, and application, the quality and breadth of pure-basic-research capability is the distinctive competence which best defines a university’s competitive strength and best reflects its market position. ‘Top tier’ means top basic research. For a university to be classified ‘top tier’ in any global ranking, the university must possess broad, high quality, ‘top tier’ basic research competence. For the research university, basic research is the strategic product—it is its ‘killer’ product.

The widely discussed argument, therefore, advanced by a team of distinguished scholars, that the site of knowledge production is changing from academic institutions to other sites outside the academy, is wrong in its implication that the site of new knowledge—in the true basic research sense—is changing. It is not. The site for the refashioning and transforming of knowledge may be changing, but not that of the discovery or creation of epistemologically and ontologically new knowledge. In their book *The New Production of Knowledge*, the scholars argue that there has been, and is continuing, a dramatic and irreversible shift in the mode of knowledge production from ‘Mode 1’ knowledge—academic knowledge—to ‘Mode 2’ knowledge, which they define as transdisciplinary knowledge.

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generated outside academic institutions and carried out in a context of practical application. Among the reasons they give is that ‘the creation of many new sites is an unintended result of the process of massification of education and research’. Thus, they argue, the dramatic expansion of the number of research-qualified graduates unable to secure employment within the academy has meant that industry and other institutions and organizations have acquired those graduates and their research skills. There is no doubt also that a consequence of the rise of the ‘knowledge society’ is that the broader society is able to access and manipulate knowledge, not just the educated élites. But while there is little doubt that the ‘massification’ of education and the consequent rising intellectualization of the community, has enabled the transformation and application of knowledge to be performed outside the university, any knowledge produced outside the idea of the university can only be contracted research or scholarship defined within the specific social and economic contexts identified by Gibbons, Limoges, Nowotny, Schwartzman, Scott, and Trow. Thus, it cannot be true basic research; consequently, it cannot be true new knowledge. That knowledge can only be produced within the milieu of the university idea. The process of multi-disciplinary, disinterested, undirected, peer reviewed and refereed, research cannot exist effectively within a contracted, for-profit paradigm. New knowledge can only be Mode 1 knowledge.

The organization which is the site of production of Mode 1 knowledge need not, however, have the name ‘university’; it can be any organization whose functional rationale is the idea of the university. In practice, there are many organizations that call themselves ‘university’ but operate outside that idea. Conversely, it is difficult, if not impossible, to identify an organization that operates (to the implied breadth and quality) within that idea, that is not identified either formally or in the public mind as a ‘university.’ In that regard, even the term ‘university’ in the sense of the idea has a distinct cultural meaning which no fiddling with names can erase. Joseph Hermanowicz found, in his study of American higher education institutions, that by using structural characteristics only—staff size, degree level, scores, and so on—to differentiate universities, the very significant cultural differences (and

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80 Ibid., 10.
similarities) which existed between universities, were elided. The differences ‘shaped’ academic performance and careers. Hermanowicz remarked that ‘conceptions of career success or failure are socially generated and made meaningful only as a result of collective understandings’; and that this collective understanding was based on a particular university’s position on a spectrum represented by ‘elite’ (“to be among the best”, research intensive), ‘pluralist’ (mixed motivation and aspiration) and ‘communitarian’ (“good [university] citizenship”) groupings. The level and quality of research had a clear cultural influence on the institution, and affected its ability to attract the best researchers. Membership of an elite group conferred prestige to the individual but imposed high intellectual performance obligations. In terms of business strategy, ‘elite’ signifies the highest barriers to entry in the whole-knowledge field.

The requirement for basic research to have breadth as well as depth if genuine epistemological and ontological advances in knowledge are to be made, is incontrovertible. Scientific research alone is insufficient; a wider frame is needed. In 2001, three of the authors of The New Production of Knowledge produced a new work which had a definite shift in tone from the first book. The narrow, Naturwissenschaften, notion of knowledge which they used earlier had been shown, when interrogated, to be the limited knowledge it clearly is. The authors had seen only the ‘scientization’ of society and had been blind to the socialization of science. But the context had refused to be silent. Consequently, in their new book, Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty, the authors addressed the larger context: the contextualization of science. They observed that the tendency in the ‘knowledge society’ to ‘maintain a “line”’ between science and society missed the most important aspects of society and culture, which were that society needed ‘socially robust knowledge’. The authors were acknowledging what most needed to be acknowledged (though not using these terms): that knowledge that lacks

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Geisteswissenschaften input is partial knowledge at best.

But if the focus on modes of knowledge and sites of production failed to distinguish between types of research, it also occluded the fundamentally different aspect of true basic research when compared with other types of research and development. Just as scholarship transforms and refashions research, so applied research transforms and refashions basic research. Basic research being research whose field is unbounded, whole knowledge, and which works at the edge of human understanding, can only be undertaken within the university idea. Other research can be conducted elsewhere, drawing on basic research as required, but the ‘newest’ new knowledge can only be produced within the university as institutionalized idea—in either real or ‘virtual’ form. In ‘virtual’ form, the university as intellectual site may have no geographic centre to its intellectual heart (though there will be one for its administrative arm), which reinforces the point that the university is an idea. ‘Outside’ the university can only mean outside the idea.

Steve Fuller went some way towards stimulating awareness of this reality in the introduction to Merle Jacob and Tomas Hellström’s book: The Future of Knowledge Production in the Academy, but only indirectly. Fuller started by drawing attention to ‘the most pernicious feature of the ‘Myth of the Modes’’ which was that ‘the two modes are seen not just as mutually exclusive, but also jointly exhaustive—that is, not admitting of other possibilities’. In particular, ‘the idea of the university as an autonomous site for knowledge production that constitutes a whole that is greater than the sum of its disciplinary parts’. Thus he was reaching towards the notion of the advance of more complete, integrated knowledge, but for Fuller, the value of this was its critical and pedagogic utility, not its epistemic and ontological validity. The ‘common curriculum’, the ‘foundation of liberal education’, he said, provides ‘a basis for the university to present a unified image of itself as a critical force in society’s self-reproductive processes’. 83 Indeed it does, and indeed that is of profound social value, but true basic research is driven by a fundamental, intuitive, non-rational,

impulse to *know* more deeply without consideration of value or utility. That, paradoxically, is its research value, and hence, ultimately, its instrumental value to the university. The fundamental value of basic research is that all other research and development derives from it, but in its own *conception* it is knowledge for its own sake.\textsuperscript{84} Fuller’s focus, however, was the broad benefit (which is undeniable) to society of a richer and more useful way of thinking, not the unique research *aspect* that only the university *idea* can sustain. Thus he concluded:

The fact that several firms in Western countries have begun to invest in the funding of doctoral programmes for their middle management personnel suggests that they have begun to see that certain intellectual traits can be gained only through an immersion in traditional university values.\textsuperscript{85}

But here it is the uniqueness of the *style* of thinking which is being valued, not the uniqueness of the field of inquiry—human understanding and ‘being’—and the unlimited possibilities that, potentially, arise from research in that field. It may be that one role the university performs is that of cognitive trainer to industry, but if so that derives from, and is subordinate to, its (unique) primary role which is exploration at the limits of understanding and transmission of the discoveries made there.

### III

The task for the research university and the disciplines within it, then, is to acknowledge that it operates as a research specialist *and* business enterprise. Thus if the university is to survive and prosper it must, like its business peers, develop and manage a product portfolio that reflects both the university’s distinctive competence and competitive strength, and which meet the university’s need for present and future income streams. The business model the university defines will determine the role each product has in the process of ‘profitable’

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\textsuperscript{84} This is not to suggest that the R&D process is one-way from basic research to experimental development. Often it is practical problems that drive back along the process to manifest themselves in some element of basic research. Nor is the basic researcher an impulsive blank slate. The drive to inquire may be non-rational and intuitive, but it emerges from the actuality of the body–mind–culture network; it does not emerge wholly unformed from without. This will be discussed further in following chapters.

customer engagement, and, hence, the investment profile for each.\(^86\)

The university must manage a number of product ‘layers’ that arise from those two roles. The first is the product layer related to the basic research dimension, the second is related to the other research and development dimensions (strategic basic research, applied research, experimental development), and the third is related to the scholarship and teaching dimension. At the disciplinary level, there is yet another product layer: that of the commercial product—either contracted research, consultancy, or (for arts and humanities specialists) literary and artistic commission (or submission). These, though, for the arts and humanities academic, are ancillary to the primary role of academic research specialist, in particular, basic research specialist.\(^87\) Value is delivered to the wider basic research enterprise through the specialist mode of inquiry and category of knowledge, not the single-discipline end product.\(^88\) Popularity in the market of particular disciplinary general education or vocational products is a business consideration, not a research issue. The disciplines’ primary intellectual responsibility is to identify where the leading knowledge edge is in their field and ensure that their research is continually at that edge. Only in this way can they continue to ‘move up the food chain’ and stay ahead of their Mode 2 competitors. The university’s primary intellectual responsibility is to identify how it can ensure that its intellectual whole is always greater than its disciplinary parts.

For the individual discipline, a business appreciation of a product’s relation to the marketplace is needed if the discipline is not to be distracted from its primary research role. Apart from the issue of product types, the function of a product is a quite separate issue from

\(^{86}\) For example, which products are price setters, which are ‘cash cows’, and which are the strategic, ‘experimental’, products which eventually will become the future price-setters and cash cows. The first are prestige driven, not income driven, but require significant basic research investment, the second are the main income providers and require operating and maintenance investment, the last are development products requiring development investment.

\(^{87}\) Thus, professional bodies are simply the autonomous unions or guilds to which the specialist belongs. The professional bodies’ function is the same as any other professional association and has no research or business role in the university. The members of the profession are employed by competitors—other universities, institutions, companies—and partners alike.

\(^{88}\) Questions asked, and materials used. There are many possible ways of defining these two classes. Chapter 4, Section 3, discusses some of them.
how, by whom, and in what form it is developed and delivered to users—and how it will be used by them. Users don’t care who produces, or how or where a product is produced as long as its functionality, price, availability and quality meet their expectations. Consider ‘history’. The original source of ‘histories’ may have been the university, but if histories of the same content and quality were available more conveniently and more cheaply from some other source, then that is where they would be sourced from. Historical narratives can now be produced by museums, art galleries, companies, and ‘free-lancers’. Many professional journalists and other workers are capable of writing articles of a quality acceptable to the market. Dipesh Chakrabaty noted recently that
to the degree that the media and other institutions of popular culture today (such as films, television, internet, museums, and so on) challenge the hegemony of the university as the producer and disseminator of research and knowledge by setting up parallel institutions that, socially speaking, serve the same function with respect to the past, narratives about the past will have many different sources authorizing them.89

The academic historian’s product, therefore, must be more ‘advanced’ than that of the honours graduate or higher degree journalist or curator who works outside the academy—if, that is, the academic specialist is to claim a distinctive intellectual position. Or rather, it should be more intellectually advanced if the academic historian is to argue for remuneration as a specialist in the academy, not as an author in the marketplace. The academic historian must be clear where the basic research frontier lies and what other basic research in the academy shares a common border. In that region will be found the spring that will sustain the academic historian’s work as academic.

History is perhaps an obvious target in such argument. To the marketplace, history (as remembered past) is accessible and communal, each member of the community would claim some voice in the exposition and legitimation of that ‘history’. But even the (apparently) more abstract created product is victim of the process of absorption, adaption, and re-creation.

Critical theory, for example, has become a form of vocational liberal education. To be an active, informed participant in the intellectualised community of the twenty-first century is to have absorbed and ‘normalized’ the previously esoteric language and highly developed philosophical concepts used by specialists working at the once leading edge of social theory. The ‘intellectual’ product has become, in Martin Jay’s words, ‘a highly profitable commodity in the cultural market-place’, to be used as adornment and common discursive currency.\(^90\) As Jay has remarked: ‘For even the most discerning of observers, reality and pose have become difficult to distinguish.’ But, again, this is not the result of academic social engineering, but of the culture’s inexhaustible capacity to absorb complex products and adapt them to new uses. It is the result of, in Jay’s words again, ‘our culture’s uncanny ability to absorb and defuse even its most uncompromising opponents.’

The conclusion that can be drawn here is that determination of the use-value of an intellectual product, and of way in which it will be used (and, consequently, its user-form) will be made outside the academy. The utility leading edge will always be outside the academy, thus a significant portion of the formal research and development chain can, or will, lie outside the academy. Thus, again, the only part of that chain which does not, nor cannot, lie outside the academy, is the basic research link. It is not the nature of the product, but the function within a dynamic process of intellectualization that determines where and by whom those functions are performed. In this sense ‘academic’ defines the location at the front end of an intellectualization process, not the location within an institution or the producer of particular consumer products. The academic always works at the leading edge of a dynamic intellectual process. If this is not understood, then the danger is that the academic will feel overwhelmed by the forces of change which seem to be demolishing that special place at a distance from the rest of society, previously reserved for academics and the academy. The academic will confuse natural habitat with location in the food chain.

Simon Cooper makes this mistake, and more, when he identifies what he argues is the contradiction (and problem for academics) at the heart of any knowledge society. He remarks:

[a] fully reconstructed knowledge society provides no place to stand outside, and as such leaves little room for sustainable interpretation or critique ... we are moving to a state of ‘post-intellectuality’ [where] intellectuals increasingly will come to resemble forms of artificial intelligence—running through paradigm–defined operations—lacking insight into their own conditions of possibility.91

But this is to confuse the more knowledgeable worker with the knowledge–worker. The taxi driver may have a post-graduate qualification, but he or she is driving a taxi, not producing social critique or conducting basic research. The economic food chain in the knowledge society remains unchanged, it is just that everyone in it has become more knowledgeable. Similarly, the intellectual food chain remains the same, it is just that the academic has to move ‘up’ intellectually in order to maintain his or her place. Cooper seems to be implying that immanent critique is the **terminus** of intellectual inquiry, rather than an intellectual **moment** with its own history, to be studied. He is worrying that there is nowhere left for the academic to stand once the Mode 2 barbarians have vaulted the wall.

Clearly, the implication that the academic must always stand ‘outside’, that he or she cannot function within dynamic epistemological and ontological processes, is wrong. Inquiry will always be ‘inside’. The very stuff of intellectual inquiry is the search for the next Archimedean point from which to observe—whether it is Kantian transcendentality, or Cartesian–inspired vitalism, or Derridean **différence**, or (as intellectual renunciation of metaphysical thought) immanent critique itself. There will always be a conceptual boundary between inside and outside. The boundary is where the academy conducts its basic research. The essential and unique contribution of *Geisteswissenschaften* specialists is their ability to comprehend that moving boundary and place it within a context that enables inquiry and

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knowledge to proceed and evolve. But, similarly, it is the responsibility of the university to manage that other boundary: the university/society boundary, so that the often semi-independent ‘inside’/‘outside’ elements of research, teaching, and knowledge transfer can be integrated in a way that allows their vigorous intellectual interaction. Each informs and is informed by the other, none can function independently.\(^92\) Research grows from that interaction.

The university must manage, also, a profitable business engagement by the university with the marketplace. Like its commercial peers, it must identify its customer range and the product variations required to match that range. And like its commercial peers it must understand why its ‘whole’ is larger than its specialist parts. As they do, it must have that understanding if it is to be able to justify retention of the parts. But whereas companies, as they grow, continually cull the weakest parts, for the research university pursuing whole-knowledge basic research there are, intellectually, no ‘weakest’ parts. There is no ‘core research’ that is irrelevant, thus no discipline that undertakes basic research can be superfluous. The increased attention given by funding authorities to ‘whole of knowledge’ projects (as the result of the increasing awareness that there is no privileged, single, mode of explanation) means, fortuitously, that on this point intellectual and business logic correspond.\(^93\) Intellectually and commercially, the area of highest ‘value-add’ is research. Even if the research market is not the largest revenue source—and it is not, for that is not its

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\(^92\) The nature of the connection between teaching and research has long been contentious, but that the connection is symbiotic seems undeniable. In 1965, in Australia, in a paper commissioned by the Australian Humanities Research Council, the distinguished academic John McManners observed that: ‘One’s research may directly assist only a fraction of one’s teaching; but reflective preparation for teaching should enliven one’s research, however indirectly’. J. McManners, R. M. Crawford, *The Future of the Humanities in the Australian Universities* (Melbourne: Melbourne University Publishing on behalf of the Australian Humanities Research Council, 1965), 20. The research, teaching, knowledge transfer chain is two way, as is the research, development, application, operation chain. This will be addressed in Chapter 5.

\(^93\) For example, see PMSEIC (Prime Minister’s Science, Engineering and Innovation Council) Working Group, *Imagine Australia: The Role of Creativity in the Innovative Economy* (Canberra: PMSEIC, 2005); also Jenni Metcalfe, et. al., *CHASS Occasional Papers: Collaborating Across the Sectors: The Relationships between the Humanities, Arts and Social Sciences (HASS) and Science, Technology, Engineering and Medicine (STEM) Sectors, November 2006* (Canberra: Council for Humanities, Arts and Social Sciences (CHASS), 2006). Chapter 5 will discuss this trend in more detail.
function—it is a key differentiator and price-maker. Through its price-making function revenue is maximised in the main revenue sources which are general education and professional and vocational training. Research quality determines perceptions of university ‘rank’, and university rankings determine the attractiveness of both the research and educational environment for researchers and students alike.

Research is the ‘premium’ category in the knowledge economy, and basic research is the highest rung of that category.
CHAPTER 2

RESEARCH AND SCHOLARSHIP

Had such a statement ['He learned much that other men had discovered, and conveyed much of this to others'] been always the best that could be said of any man, our science today would be that of the primitive cave-dweller. It is the minds that have advanced beyond what they have received from others that have brought us to the point where we are. It is to the discoverers, in far greater measure than to the transmitters, that the world is under obligation.

—William Gardner Hale

The moment the historian conceives the ambition to understand, and conducts his historical studies accordingly, he brings upon himself the curse of homo sapiens. After all, Adam’s curse was to labour not with the grease of his elbow but with the sweat of his brow.

—Munia Postan

Once a fellow has been elected, he finds no suitable direction in Oxford. He must go for instruction to Berlin or even to Catholic and arriéré Vienna. Oxford cannot give it to him.

—Mark Pattison

The Pursuit of Knowledge

‘Research’ is considered a self-evident ‘good’ in contemporary society. To be an academic in modern society means to be a person accomplished in the conduct of specialist disciplinary research. Regardless of the activity that person may be undertaking in the academy, whether it is administrative, pedagogic, research, or a mix of all these, the person’s identity, status, and legitimacy is determined by their level of research accomplishment. However, the notions that research is central to the idea of the university and central to academic competence, are recent perceptions. Their emergence and hegemony have their origins in the rise and rise of


In England and America, science in the academy had always been associated with research: however, for the humanities, research as a notion was only embraced in the last half of the nineteenth-century—and research training only in the last twenty years of the nineteenth-century. For the history discipline in England, consensus only emerged on the need for research in the second half of the nineteenth century, and it was to Germany that it looked when seeking to establish research processes. But although the discipline may have emulated German research method, the English conception of research purpose was quite different to the German conception. For the English it was applied knowledge, for the Germans it was ‘pure’ knowledge. Consequently, the ‘truths’ sought and the understandings derived from that research, were quite different. For the Germans the discipline was, primarily, a means to a basic research end: to expand ‘knowledge of knowledge’ (in effect, a probing of epistemological and ontological boundaries)—it was to understand more deeply the nature of being. For the English, research was primarily a means to a pragmatic end: to derive history’s political and moral lessons—thus, to understand more deeply how to act. For the Germans, the knowledge sought had its roots in theology, philosophy, and mystical intuition; for the English, the roots were in statecraft, government, and the tradition of civil ‘freedom’ and obligation.

I

The two styles of thought had not always differed. When the institution of the university was first established, in the medieval period, it represented a ‘commonwealth of thought’ that was little affected by national differences since that thought was grounded in the

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4 ‘English’ denotes geography, not ethnicity; Bury, for example, was Irish.
5 The phrase ‘knowledge of knowledge’ is discussed below in a later section.
common system of inviolable, Christian, theological truth. Scholars, possessing as they did both common understanding and common language (Latin), moved freely between the major universities. Until the beginning of the fifteenth century, masters in the faculties of philosophy, or law, or theology in Paris, or Oxford, or Cologne might be from any part of Europe. But with the extensive social transformations of the fifteenth century, particularly the rise of literacy stimulated by the availability of printed material, the rise of humanist thought and Protestant revolt, and the early use of vernacular language in academic scholarship and discourse, national differences between the universities began to emerge. Masters now were more likely to be from the country in which the university was located, and to reflect national cultural differences

In England, Bacon’s rejection of Scholasticism, and his redefinition of the purpose of ‘learning’ and how it should be advanced, has been said to mark the point at which a distinctive British intellectual style began to emerge. From the latter decades of the seventeenth century in England, with the great success of experimental scientists such as Newton, Boyle, and other members of the Royal Society, and with philosophers such as Hobbes and Locke, a distinctive British empiricist mind-set emerged; and which was to evolve further into the utilitarian empiricism of Bentham, Mill and others. Utilitarianism was to typify a distinctly ‘British’ form of positivism.

In Germany, quite different influences had, by the last decades of the eighteenth century, produced a very different intellectual orientation. In 1789, Germany was not a single nation but, rather, as the remains of the Holy Roman Empire, an empire with no central government nor financial system, nor dominant religious denomination. The Reformation and Counter-Reformation, the Thirty-Years War, and the contingencies of geography and politics had produced a ‘Germany’ constituted by a collection of 1,789 (sic) independent

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6 Bacon, for example, was responding to influences that were becoming widespread not just in Cambridge, but Paris and other centres of learning. But after his death his books became particularly influential in British ‘natural philosophy’ circles. Robert Boyle, a founding member of the Royal Society (1660), was an admirer and did much to publicize the content of the works. Meyrick H. Carré, *Phases of Thought in England* (Oxford: Clarendon Press, 1949), x, 234, 238–240.

kingdoms, electorates, principalities, duchies, margravates, free cities, and ecclesiastical territories. Some, such as Prussia and Austria, were independent states and European powers, but most consisted only of a few castles and villages. It was, though, an empire with a large number of long established and intellectually substantial universities. The oldest, Heidelberg, had been founded in 1385. Marburg, founded 1527 was the first Protestant university, and Halle, founded 1694, became the academic centre of Pietism. Because of Germany’s tumultuous political, religious, and intellectual history, the need arose for civil, theological, and philosophical expertise. Consequently, most universities were strong in one or more of the traditional disciplines, particularly law, theology, classical scholarship, and philosophy.

In religion also, differences emerged between the two countries. The threads of mysticism and logic which had always informed intellectual inquiry (and manifested as the interweaving of reason and faith in medieval academic thought) began to assume different emphases. In Germany, the growth of religious mysticism, particularly in the Rhenish territories, combined with the personalized faith promoted by Lutheranism and Calvinism, produced a German theological and philosophical style of thought which had at its centre spirituality and subjectivity, not liturgy and public worship. German pietism, although influenced by English and Dutch pious religious thought, had developed its own distinctive character from earlier German religious mystics such as Meister Eckehart (c. 1260–1327/28), Johannes Tauler (c. 1300–61), Heinrich Suso (c. 1295–1366), Thomas à Kempis (c. 1380–1471), and then Martin Luther (c. 1483–1546) and other contemporary reformist thinkers.

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8 Golo Mann, *The History of Germany Since 1789* (Harmondsworth: Penguin Books, 1974), 21. Most of these disappeared in the administrative rationalization and political bargaining during the period of French hegemony under Napoleon, after which there remained 38 substantial states.

9 In 1789, of the 143 universities still functioning in Europe 35 were in Germany. The four largest German universities at that time were Halle, Göttingen, Jena, and Leipzig with a total of around 3,200 students (40% of all students). See Christophe Charle, ‘Patterns’, in, *A History of the University in Europe*, vol 3: *Universities in the Nineteenth and early Twentieth Centuries (1800–1945)*, ed. Walter Rüegg (Cambridge: Cambridge University Press, 2004),33.

10 What is meant here by ‘intellectual’ is the divergent intellectual orientations and patronage of the many independent courts—some Catholic, some Lutheran, some Calvinist, some Francophile, others Francophobe, etc.

11 Institutionally mediated faith and experience was replaced with personal belief through personal spiritual ‘experience’ (spiritual intuition).
such as John Oecolampadius (c. 1482–1531) and Sebastian Franck (c. 1499–1542). In England, mysticism, in the form of personal spiritual experience, grounded English Puritanism and Deism, and later, through contact with the German Moravian church, the Methodism of Wesley. But in Germany, pietist thought was institutionalized, along with Lutheranism, Calvinism, and Roman Catholicism, in the university system and civil service. In England it was excluded from both the university and civil service. In Germany, theology was infused with a tradition of subjectivity and intuitive cognition. In England, theology was infused with Church of England orthodoxy which privileged authority and doctrine.

II

For the institution of the university, the pursuit of knowledge had always been central to its function. However, for most of the institution’s life that pursuit was through scholarship and learning to which reason was applied within prescribed ontological and epistemological limits. The purpose of intellectual endeavour was clarification, rather than research in the sense of the expansion of ontological and epistemological boundaries through discovery and creative thought. It was designed to preserve and transmit. As a Church-inspired and Church-sponsored institution, the medieval university’s theoretical vision was filtered through a Christian ontology which presumed as self-evident a natural and (sacred) supernatural world whose boundaries were transcendent and absolute. This presumption framed the conception of knowledge’s forms and the manner of its acquisition. Knowledge was of two distinct types: natural knowledge, for which reason and ‘philosophy’ were the means for its acquisition, and supernatural knowledge, for which faith and theology were the appropriate means. It was assumed as self-evident that supernatural knowledge was derived from divine revelation: thus it was through faith and theology not rational inquiry that ultimate access to that revealed truth would be provided. But reason, as logical argument, was the means to validate and articulate, thus authorize, a mystical end.

From the Greek philosophers had come the conclusion that belief in a super-sensible intelligible world, and in eternal and exact truth, could be proven. Through mathematics it
appeared to be possible to discover things about the actual world by first noticing what was self-evident, and then using deduction to extend that knowledge. By deductive reasoning one could start with the self-evident and arrive at theorems and ‘laws’ that were far from self-evident, but which accorded with experience—as science had continually demonstrated. Theology, particularly in its Scholastic form, was the rigorous application of deductive thought to the supernatural world, just as science was the application of deductive thought to the natural world. The eternal world was revealed to the intellect, the natural world to the senses. Through reason, a belief in self-evident, eternal, exact, Christian truths could be validated.

Religious faith derived from mysticism, but religious authority derived from reason. Given the intricate and turbulent relationship between religious and secular authority that existed for much of the university’s early life, the university’s special theological and legal ability, and its special theological and legal knowledge, assured it of a distinctive and indispensable political and religious role. On theoretical matters concerning law and religion, the university was the ultimate intellectual authority. On practical matters concerning the government of law and religious doctrine, the academic was the most expert advisor to authority. There was no expectation for either the university or the academic to create knowledge in the modern research sense, but the university and the academic represented the highest, thus most distinctive and pre-eminent, intellectual competence available.

Despite the restriction its religious assumptions imposed, intellectual inquiry in the medieval academy represented the most advanced attempts to advance understanding on the perennial philosophical questions regarding the nature of reality and the nature of ‘man’. For the Church, these general questions manifested themselves as particular questions on substance and non-substance, will and action, realism and nominalism (the problem of universals and particulars), and the provability of God’s existence. God existed, that was

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13 And, broadly, using either Platonic or Aristotelian premises in the investigation of the problem.
given, but there were ontological puzzles and doctrinal problems. The academic was the one most able to unravel these complex and subtle intellectual and doctrinal issues. The philosophical solutions developed by St. Thomas Aquinas were particularly influential as their dexterous synthesis of the thought of Plato, Aristotle, Augustine, and other early Church Fathers overcame many of the ontological and doctrinal problems that previous syntheses had left unresolved: for example, problems regarding the relationship of matter to eternity, and the nature of the human soul and human ‘being’. Through the principles and methods he devised, Aquinas had provided a means by which reason could be harmonized with belief. But, significantly, he had concluded, as others had concluded before him, that reason and belief were a dyad: neither one could replace the other, they could only be brought into harmony.

Aquinas had concluded, finally, that theology was of three forms: ‘natural’, ‘philosophical’, and ‘revealed’, and that, ultimately, the first two required the divinely revealed propositions of the third, if they were to avoid mistakes about the truth of God. ‘All human well being … depends on cognition of that truth’, he wrote. Doctrinal mysteries were not impervious to investigation, but unaided reason could never discover divine truths. Regarding the central mystery of the Trinity he declared: ‘It is impossible to arrive at a cognition of the Trinity of the divine persons by means of natural reason’. Discovery required spiritual intuition, thus faith, since spiritual intuition was wholly constitutive of faith. John Duns Scotus, too, had concluded rationally that philosophy was insufficient to satisfy the deep need for profound knowledge. For Duns Scotus, to truly understand the concept of human being was to understand that the immanent and the transcendent world had a single meaning. In this conclusion, Duns Scotus had anticipated the German Idealism of Fichte, Schelling, and Hegel, and the later phenomenological ontology of Heidegger. And in their general conclusion that ‘spirit’ and reason were dyadic, the Scholastic thinkers had

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14 A combination of Aristotelianism and Greek and Arab scientific thought.
15 The application of reason to revelation.
17 Ibid., Thomas Aquinas, *Summa Theologia* Ia.32.1c, 47
anticipated the English and German Romanticist thought of the eighteenth and nineteenth century. Whether the dyad was thought of as reason and faith, or subject and object, or imagination and rationality, or phenomena and noumena, its identity represented the limit of ontological and epistemological understanding.

Scholasticism, Romanticism and Idealism treat mysticism and rationality as two fundamental human impulses. The Scholastics, working at the edge of human understanding and with an exemplary intellectual rigour, had reached the same conclusion as thinkers five hundred years later: that of the unavoidable interdependence of reason and belief. They had shown, as later thinkers were also to do, that, ultimately, reason rests on belief and assumption—reason by itself cannot explain why there is reason rather than no reason—but belief needs rational grounding if it is to have any religious, political, moral or social authority. The corollary of this was that, in order to go beyond current understanding a combination of intuition and reason was required. Originality required both reason and intuition; new knowledge in its many forms required both perception and conception for its acquisition.

Bertrand Russell observed:

the attempt to conceive the world as a whole by means of thought, has been developed, from the first, by the union and conflict of two very different human impulses, the one urging men towards mysticism, the other urging them towards science … in Hume, for example, the scientific impulse reigns quite unchecked, while in Blake a strong hostility to science coexists with profound mystic insight … the greatest men … have felt the need both of science and of mysticism: the attempt to harmonize the two was what made their life … 18

Hume personified empiricism, Blake romanticism. But for earlier thinkers such as Descartes, Spinoza, Pascal, Leibniz, and Wolff, and for contemporary ones such as Kant, Herder, Coleridge, Faraday and Hegel the power and originality of their speculations were due in no small part to them being an intimate blending of spiritual intuition with reason. For those

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thinkers there were no disciplinary boundaries.

For them, disciplinary boundaries were irrelevant. Disciplinary labels simply described particular modes of inquiry. Then, as now, the boundaries were porous. Descartes, Leibniz, Pascal moved with equal ease and legitimacy between philosophy, mathematics, natural philosophy, theology, and history. They simply sought to know and understand more than was already known and understood. Leibniz was philosopher, mathematician, historian, philologist, jurist. Kant’s early works were more concerned with science than with philosophy. For the nineteenth-century scientist Michael Faraday, scientific research was just the means by which his deep search, like Leibniz, for that single ‘monistic’ universal force by which the natural and supernatural became unified, could be progressed. George Airey, the Astronomer Royal at the Cambridge observatory, commented to fellow astronomer John Herschel: ‘I have always known Faraday as a mystic: I suppose however that a good share of that character is indispensable for an advancing philosopher.’ For Faraday, in his desire to explore the ‘detailed complexity of the actual,’ and to understand reality, there were no logical or disciplinary boundaries. The melding of reason and intuition, science and philosophy was accepted without anxiety.

For John Henry Newman, it was only knowledge of that whole reality which constituted ‘universal knowledge’. Newman regarded the established categories of knowledge as parts of that unified whole; the disciplines were just modes of inquiry into that larger whole. The fact, though, of that reality was a revealed truth and beyond reason. All inquiry, however free, operated within that truth. In his discourses on the idea of the university, he insisted that natural philosophy, theology, philosophy, mathematics and history were one as means to the acquisition of universal knowledge; as he said, since truths resided in ‘the natural order, as well as in the supernatural’, none could be excluded. For Newman,

19 It is assumed that this remark is meant as it appears. Airey to Herschel, 20 March 1857 (John Herschel Papers, Royal Society), quoted in Susan Faye Cannon, Science in Culture: The Early Victorian Period, 58.
20 This is a phrase used by Susan Cannon in another context, in Susan Faye Cannon, Science in Culture: The Early Victorian Period (New York: Dawson & Science History Publications, 1978), 59.
the idea of the university implied the notion of ‘universal knowledge’.

But for Newman, the university’s role was not the creation of knowledge; rather, it was ‘the perfection of the Intellect’ through the contemplation of the integrity and unity of knowledge.22 It was the unity of all knowledge, like the ‘Idea’ or the ‘Absolute’ of the German Idealists, which was the essential truth to be apprehended and ‘felt’. Contemplation, not discovery, was the key. He deplored what he saw in the new London University:

a sort of bazaar, or pantechnicon, in which wares of all kinds are heaped together for sale in stalls independent of each other … The majestic vision of the Middle Age, which grew steadily to perfection in the course of centuries, the University of Paris, or Bologna, or Oxford, has almost gone out in night. A philosophical comprehensiveness, an orderly expansiveness, an elastic constructiveness, men have lost them, and cannot make out why. This is why: because they have lost the idea of unity.23

Newman had never set himself against either reason or research.24 He acknowledged quite freely that ‘if we invite reason to take its place in our schools, we must let reason have full and fair play … we cannot use it by halves’. But he considered the two dogmas of faith: natural and revealed knowledge to be inviolate; thus science (which exemplified inquiry and open-ended research) could only ever coexist with religion, it could not integrate with it or displace it. The university’s role lay beyond research.25 ‘The philosophy of an imperial intellect’, he said, ‘for such I am considering a University to be’, has as its ‘true representative’ one who ‘aims at no complete catalogue, or interpretation of the subjects of knowledge, but a following out, as far as man can, what in its fullness is mysterious and unfathomable’.26

Newman had never been able to reconcile a genuine intellectual liberalism with a

24 The medical school in the Catholic University of Ireland had first-rate laboratories and libraries and was the most flourishing in the University. See Culler, The Imperial Intellect, 160.
religious submissiveness; it was a stressful tension, as his discourses and occasional lectures and essays reveal. His prostration before Church dogma prevented him from ever achieving a harmonization of reason and faith. All that was possible was a theological mysticism that could never *progress* intellectual inquiry. Education, not discovery, was his intellectual concern, as it was for the English academy. As Mark Pattison had commented: under a Newman system, ‘a college must become a mere priestly seminary and not an agent of a university’.  

III

The Romanticism and Idealism which emerged in Germany, and the Romanticism which emerged in England, during the second half of the eighteenth century were a new manifestation of the instinctive search, like Herder’s and Faraday’s, for a deeper more complete understanding of a ‘whole’ reality. Although natural forces, mechanical causation, and rational critique had replaced divine purpose and the supernatural as the keys to explanation of the phenomenal and rational world, they still left unfulfilled the hunger for a ‘deeper’, more subjective, knowledge. With the Enlightenment had come the notion of human agency and historical possibility: that social and natural science could be combined into a science of man whereby revolutionary change could be achieved through rational, ‘intelligent’, action. But neither mechanical causation, nor physiological research could explain ‘free will’, the soul, moral sense, or ‘sensibility’, and reason alone could not engage the complexity and raw, visceral, immediacy of life.

In the eighteenth century, through medical science, the model of man had changed incrementally from ‘*homme machine*’ to ‘*homme sensible*’. Enlightenment scientism had evolved into an Enlightenment vitalism in order to mediate between early eighteenth-century mechanism and animism.

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and experiment, had opposed the teleological, animistic view of Aristotelian science as represented, in its assimilated Thomistic form, in Roman Catholic and Protestant theology, but it merely placed the human soul or mind—Kant’s transcendental self—outside deterministic nature. Descartes, after having long cherished the hope that ‘the science of man’ could be deduced from physics, concluded that it could not be done. And Kant had simply explored, as he declared, the limits of reason in order to allow room for faith. His principal goal was to refute Hume’s argument denying knowledge of causality. But ‘vital force’ or essence still remained, and its location and relationship to nature still obscure. The relationship between, on the one hand: soul, mind, consciousness, free will, and moral sense, and on the other: body and brain, required reconsideration. The functions of the ‘physique’ now appeared to be ‘intrinsically and jointly interwoven with the functions of the moral.’ Since soul or ‘spirit’ (Kant’s moral agent), and ‘will’ were linked to mind, then as mind was linked to brain, the physical and the moral must be linked through some ‘vital’ agency. The problem was the issue of control: how at a social and individual level the ‘will’ is exercised, or fails to be exercised. Social order, civility, and morality depended on inhibition and ethical sense. ‘Will’ must transcend, but control, physiological functions; but how this was so remained mysterious: The metaphysical solutions to problems of immanence–transcendence, subject–object, propounded by thinkers such as Spinoza and Leibnitz did not address the mind–body problem which ‘will’ and physiology presented.29

In Germany, Hamann’s powerful, intellectual, religiously inspired, primitivism was emphasizing a ‘whole man’ conception of human nature and understanding. For Hamann, neither Deism, which was directed to the intellect, nor Pietism, which was directed to intuition, were adequate—‘whole man’ was a dynamic unity of belief and sexuality.

30 In the Preface to the second edition of the Critique of Pure Reason (1787) he explained: ‘I had to deny knowledge in order to make room for faith.’ For Kant, the concept of God and the practical (i.e. moral) use of reason were intimately connected.
32 It was not until Wundt established his psychology laboratory in the University of Leipzig in 1879, that physiology and philosophy were joined.
When combined with the New Humanism\textsuperscript{35} that was emerging in the German academy (the studies of such scholars as Winckelmann, Lessing, Herder, Heyne, and F. A. Wolf were raising awareness of the importance of poetry and art to \textit{understanding} past cultures and, consequently, one’s own) the resulting ideas of organic unity produced ways of understanding and \textit{experiencing} lived reality that were orthogonal to Enlightenment’s positivist, reductive, thought. Now, for these scholars, myth and poetry were the oldest history. Imagination was a portal to an historical truth not accessible to pure reason.\textsuperscript{36} Dilthey too, many years later, concluded that historical ‘objectivity’ was made possible by the fact that historical understanding draws on the same imaginative capacities that enable poets to transcend the limits of their own historical context.\textsuperscript{37} Empiricism and reason alone were insufficient.

Herder’s insistence that cultural explanation required ‘whole’ cultural understanding, when joined with the literary innovation of Goethe, Schiller and other writers, produced a distinctive German form of historical and cultural explanation. It produced a German Enlightenment unlike that of other countries. To Herder, man was more than dry reason, and progress was a chimera, the past was as valid in its own terms as the present was.

Civilization was not the salon; civilization was authenticity and \textit{wholeness}—that organic


\textsuperscript{34} Goethe characterized the thought of Hamann in the words: ‘All that a man undertakes to perform, whether by deed, by word, or otherwise, must proceed from all his powers united; everything isolated is worthless.’ \textit{The Autobiography of Goethe}, trans. John Oxenford, vol. 2, 136, quoted in James C. O’Flaherty, \textit{Johann Georg Hamann}, 34.

\textsuperscript{35} The Old Humanism sought to imitate the latin classics, the New Humanism sought to assimilate the substance and to form the mind and taste. See John Edwin Sandys, \textit{A History of Classical Scholarship}, vol. 3 (New York: Hafner, 1967), 7.


totality of intellectual, spiritual and artistic life that was Kultur. Literature and art were the living expression of that wholeness. That, for Hugh Trevor-Roper, was the ‘essential doctrine of the great Germans of the late 18th century’. Significantly it was, as Trevor-Roper observes, a doctrine particularly acceptable in a country whose only unity was provided not by politics—politics only divided and weakened it—but by culture: which was saved from being a mere geographical expression by its newly discovered greatness as a Kulturvolk.

Germany could not be defined by geography, as Britain could be. The German desire to understand, in Herder’s sense, was a desire to understand ‘Who are we?’ It was an existential question which connected to the exploration of subjectivity and ‘universal’ identity pursued by Schelling, Fichte, Hegel, and others. It connected, too, assisted by the hermeneutic theories of Schleiermacher and Boeckh, to the centrality of historical consciousness in the work of Schiller, Niebuhr, Ranke, Humboldt, Droysen, and others.

In contrast to German Romanticism and Idealism which were grounded in philosophy, Geist, Kultur, and historical consciousness, the roots of English Romanticism were grounded in late eighteenth-century literary notions of the natural sublime and intense feeling. The intensity of feeling generated through awe, or terror, transported the subject beyond reason to an absolute sensibility. Coleridge, influenced by Kantian and German Idealist thought, provided some philosophical substance, but it remained a literary, aesthetic, movement. By reversing Kant’s logic, and making imagination the primary agent of subjectivity, not reason, Coleridge was able to explore the notion of the union of emotion and thought manifested through imagination. Imagination was primary, intelligence secondary; intelligence was

39 Ibid., 360.
40 See, for example, Rudolf Makkreel’s review of Wilhelm Dilthey. The Critique of Historical Reason by Michael Ermarth, History and Theory, 19, no. 3. (Oct., 1980), 355.
41 In 1798–99 Coleridge visited Germany and had attended lectures in Göttingen and become familiar with the work of Kant, Schelling, Fichte, Lessing and Schiller well before those scholars were known on England; as well he became aware of German biblical scholarship, ‘Higher Criticism’, and philology. There is substantial literature from the earliest twentieth century onwards debating the connection between English Romanticism and German Romanticism and Idealism.
subordinate to imagination.42 Literature and poetry's special capacity was their ability to provide this integration of reason, intuition, and feeling. English Romanticism was almost wholly connected to individual poetic and literary expression: it had no connection with ‘Englishness’ as identity—unlike German Romanticism which was infused with the spirit of Germanic linguistic and cultural community.43 And unlike German Romanticism, for English Romanticism the university was peripheral, not central, to its formation.

**History and Discovery**

The eighteenth-century ‘idea’ of the university held research not to be central to university practice. The idea was to retain much of its force in England throughout the first half of the nineteenth century, and to some degree until the twentieth century. Important scientific research was being conducted, but that almost wholly outside the academy. In contrast, in Germany by the end of the eighteenth-century acceptance of the idea of research as intrinsic to academic function, had become widespread.

Earlier in the eighteenth-century in Germany, research had not been considered a duty intrinsic to the academic office itself—though many scholars who held university chairs did pursue extensive scholarly research.44 However, with the renewal of the German university system at the beginning of the nineteenth century, and with the example set by the University of Berlin, research became intrinsic to the idea of the university. By the end of the first quarter of the nineteenth-century German research and scholarship had come to epitomize original, innovative, and professional academic endeavour.

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42 ‘The imagination then I consider either as primary, or secondary. The primary imagination I hold to be the living power and prime agent of all human perception, and as a representation in the finite mind of the eternal act of creation’. Samuel Taylor Coleridge, *Biographia Literaria: Or Biographical Sketch of My Literary Life and Opinions*, ed. George Watson (Dutton: Dent, 1971), 162.

43 Nor did it have any significant connection, I would argue, to the sentimental humanitarianism which emerged in the eighteenth century from the Christian Deist idea of self-sufficient virtue and moral sensitivity—such as promoted by Anthony Ashley Cooper (Third Earl of Shaftesbury).

Central to the university reform had been the alteration of the way appointments and promotions were determined. Only scholarship which enhanced the individual’s reputation among his disciplinary peers was now rewarded, thus the scholar’s most important work was directed to the specialist group. It was only the specialist group who were capable of properly judging the work’s scholarly merit. The inevitable consequence was increasing specialization. By 1840 in Germany specialization was firmly established. Professorial output now meant original research addressed to specialists in that field. Work addressed to a broader audience—textbooks and popular works, for example—was considered to be secondary professorial activity.\(^45\) In England, the view that research was peripheral to education, thus of questionable relevance to the university, remained influential throughout the nineteenth century. Initially, the purpose of research was more the replacement of foreign-authored student textbooks, and the editing and ordering of public records, than discovery in any epistemological sense.\(^46\) It required scholarship rather than basic research of the kind Wolf, Winckelmann, Niebuhr, and Ranke undertook.

Without the impulse of conceptual discovery behind it, scholarship can lack vitality and purpose and risk being little more than antiquarianism or pedantry. The uncovering of another document is in itself no more useful than uncovering another pebble in the quarry, unless there is an original conceptual query behind the recovery. There was much German scholarship that was simply pedantry—a criticism often made of it in England. Acton, using Ritschl as an example, had remarked that ‘The extreme subdivision of labour narrowed his view, and gave an unusual scope and value to diligent mediocrity. Dull men built themselves an everlasting name’.\(^47\) But for the German scholars whose search was conceptual, as Herder, Winckelmann, Niebuhr and Boeckh’s, for example, was, the narrowed focus was the means to a more general truth. By accessing a particular authentic past, a general truth could be ‘sensed’. The power of Niebuhr’s History of Rome derived from the drive to understand

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46 See later section below.
conceptually. In a letter to a young friend Niebuhr had explained that ‘true’ philology brought health to the soul. The purpose of classical study was to assimilate the spirit of those times, not to make them themes for aesthetic criticism. Learned investigations in themselves, he said, belonged to a lower level. An English scholar wrote of the ‘freshness’ of Niebuhr’s History of Rome, of ‘its elation of real or supposed discovery, the impression it conveys of actual contact with a great body of new and unsuspected truths’. Thomas Arnold’s biographer remarked that when Arnold read Niebuhr’s History of Rome ‘a new intellectual world dawned upon him, not only in the subject to which it related, but in the disclosure to him of the depth and research of German literature’. Mark Pattison commented that ‘One was expected at that time [1830s] to know something of Niebuhr’s views.’

For Ranke, too, the spirit of German Idealism—that fusion of philosophy, subjectivity, and spiritual intuition—shaped his research. His exemplary methodological rigour served an entirely intuitive, mystical impulse. Ranke had declared Fichte—the supreme metaphysician of subjectivity and consciousness—to be the one to whom, after Niebuhr, he was most in debt. Ranke looked in his sources for vitality; for that essence which only the historian could distill from the deeds of the past. The historical truth he sought transcended factuality. His search was epistemological and ontological:

Over against the world of truth there is a world of appearance which goes to the roots and develops an ever more profound appearance until it ends in phantasy … Talent is an intimation, an immediate empathy with essence. I scent the track of the spirit … The spirit from which things come, and the

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52 Acton, “German Schools of History”: 15.
In this theory of knowledge the most subjective is at the same time the most general truth.\(^5\)

It could have been Schelling describing his ‘absolute Idea’, or Fichte his ‘absolute Subject’.

Ast also explained that ‘Being cannot transform itself into knowledge, or the corporeal into spirit, without being akin to it or fundamentally one with it. All life is spirit and without the spirit there is no life’.\(^4\) The significance of Ranke’s statement ‘wie es eigentlich gewesen’—‘to show how it essentially was’\(^5\)—was that the track of the spirit could only be followed by capturing, as Herder, Winckelman, Wolf and others had insisted, the authentic past of each culture studied. Nothing existed outside Geist and Kultur. ‘When we remove the shells from things and turn out what is essential in them’ Ranke wrote, ‘it happens that in our own selves essence, spiritual life, soul, and the breath of God take wing, or at least have existence’.\(^5\) ‘To show how it essentially was’, was an ontological statement—only its practical consequence was methodological. Scholarly rigour was the necessary handmaiden only, and scholarship only the incidental result, of research into authenticity and Geist. The search for knowledge involved metaphysical discovery, and, for those searchers, historical research was fundamental to that discovery.

In the seventeenth-century German academy, history was an adjunct to jurisprudence and theology; it had no independent interpretive existence.\(^5\) In the eighteenth century, the intellectual centre had been defined by philosophy, classical studies, and philology; with history their companion only. But by the early nineteenth century, in Acton’s words, ‘the

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\(^5\) Georg Iggers argues that ‘essentially’ not ‘really’ is the more accurate word; see Peter Novick, *That Noble Dream* (Cambridge: Cambridge University Press, 1988), 28.


servant of many masters rose to be a master over them, and having become a law to itself imposed it on others’. 58 Not only were Geist and Kultur historical, but as Hegel had argued, reason—the world’s transcendental reality—was itself historical, reason defined history. History was the dialectical working-through of reason to the moment of reason’s final realization as the totality of all truth—the ‘Absolute’ of all being. 59 Wilhelm von Humboldt explained how ‘There is actually no historical truth, neither in an account of a single fact nor of a sequence of events if one does not descend to the invisible idea that is revealed in every event’. 60 In his seminal paper to the Prussian Academy in 1821, Humboldt told his audience that ‘In its final, yet simplest solution the historian’s task is the presentation of the struggle of an idea to realize itself in actuality’. 61

II

The idea of active vital forces, and the importance of Geist and Kultur to the character of a people were central to the intellectual and political spirit which saw the establishment of the University of Berlin in 1809. By the end of the eighteenth century, the distinctively German idea of culture that had emerged began to be seen, particularly in Prussia, as a central component of political resistance to the French domination that had occurred in the Napoleonic aftermath to the French Revolution. Humanity, in this cultural view, was not everywhere the same; each culture marked the realization of its own distinct potential. As Herder, Ranke and others had proclaimed, each culture was both related to all others and yet unique and uniquely valuable (‘immediate to God’ was Ranke’s expression). 62 This new cultural-humanism emphasized that culture and the free development of the individual

58 Acton, “German Schools of History”: 7.
59 There was, however, a marked difference between the philosophy of history of the historians and Hegel’s philosophy of history. Each were critical of the other. See Herbert Schnädelbach, Philosophy in Germany 1831–1933, trans. Eric Matthews (Cambridge: Cambridge University Press, 1984), 40–47.
personality—Bildung—not economic and political power, were the way a people and nation achieved greatness. In a letter written in 1791 to his friend, the political journalist Friedrich Gentz, Wilhelm von Humboldt, echoing Hamann, expressed his conviction that a culture which suppressed sensuality and failed to bring it into creative tension with reason could never realize its highest possibilities. For while reason ‘gives direction’ to energy, Humboldt wrote, ‘sensuality is the source of all vital energy’.63 The supreme social purpose should be to make possible individual self-fulfillment through ‘inner development of [ones] capacities and inclinations’.64

After Prussia’s devastating military defeat by Napoleon at Jena and Auerstädt, political attention became focused on the development of the state as the political expression of Prussian culture, and by that means to provide a defence against French hegemony. That defence was provided through the development of the citizenry, and education was the obvious means by which this strategy could be implemented. Consequently, Humboldt, as Director of the Section for Ecclesiastical Affairs and Education in the Prussian Ministry of the Interior from February 1809 to June 1810,65 was charged with the implementation of state policy and, in David Sorkin’s words, ‘revamped the Prussian educational system in accord with the neo-humanist conception of Bildung’.66

In the new Friedrich-Wilhelm University (University of Berlin)—established by Humboldt and formally instituted by Prussian royal decree in 1809—Bildung was activated through ‘freedom’, realised as Lehrfreiheit, the right to pursue and teach67 one’s competence,

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67 Here ‘teach’ meant interchange in seminars of the professor’s experiences in the search for knowledge, not the transmission of a static body of knowledge. See Schnädelbach, Philosophy in
and Lernfreiheit, the right to choose what one studied, to choose one’s path to self-cultivation. The mode of instruction was the seminar and interchange between student and specialist based on a free spirit of inquiry, not the lecture and the transmission of approved information. Thus, the fundamental principles on which the university was organized were academic freedom, the unity of research and teaching, and the unity of knowledge.68  The roots of the pedagogic philosophy were broad, but the philosophy was a synthesis of, in particular, the writings of Schelling, Fichte (the first Rector), and Schleiermacher. Schleiermacher, who had been forced out of the University of Halle after Napoleon’s invasion of Prussia, had joined Humboldt and Fichte in Berlin for the planning of the new university. His liberal ideas regarding the conduct of research and teaching were particularly influential.

For Schleiermacher, as for Humboldt and Fichte, it was the essence of things rather than their external phenomena that was the point of investigation. Schleiermacher’s vision was that university seminars would be where:

the scientific spirit, awakened by philosophical teaching, would penetrate more deeply into the particular, to research, combine, and create something of its own, and to confirm by the correctness of its judgement the insight it has gained into nature and the coherence of all knowledge.69

The professor as teacher, Schleiermacher wrote, ‘must not narrate what he knows, but rather reproduce his own way to knowledge’. In this way students ‘should not only collect knowledge. They should directly observe the activity of the intelligence producing knowledge’, and in this way learn themselves how to do it.70

An essential element in the University of Berlin model was the importance, indeed superiority, of the philosophical faculty in relation to the other faculties.71 However, the

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peculiar dynamism of the Berlin model was due, in Christophe Charle’s view, ‘probably’ to the fact that it was ‘not shaped according to the idealistic rigour of a Fichte, but by the liberalism of Schleiermacher and Humboldt’. For Schleiermacher, the university’s role was practical. It was to:

awaken the idea of scholarship in noble-minded youths … to help them to a mastery of it in the particular field of knowledge to which they wish to devote themselves … and to see every individual thing not in isolation, but in its closest scholarly connections, relating it constantly to the unity and entirety of knowledge … thus they themselves acquire the ability to carry out research, to make discoveries, and to present these, gradually working things out in themselves. This is the business of a university.72

The idea of education developed in the University of Berlin was very different in its conception from the English idea of ‘liberal education’ with its emphasis on behaviour rather than learning, and on public leadership.73 But it was a view which was the epitome of the modern concept of basic research. Through a fortunate coincidence of a distinctive intellectual spirit and a distinctive political need, the ideal of knowledge for its own sake was desired and valued by both researchers and funders. What was missing from this arrangement, however, was the modern understanding of the conceptual differences between types of research and types of development. German Idealism may have explored epistemological limits and avoided intellectual superficiality, but without effective mediation became irrelevant to practical life.

By 1841, when Schelling returned to the University of Berlin, orthodox (‘right-wing’) Hegelianism had become increasingly remote from ‘real’ life. Schelling’s mission was to revitalize the connection. ‘That is why I am here’, proclaimed Schelling, ‘for the salvation of


the Germans lies in systematic, philosophical knowledge’. But Schelling’s ‘positive philosophy’ mix of mythology and revelation (of a personal God) missed the political mood, expressed in Left Hegelianism, which saw philosophy’s role as social critique and social action. Hegel’s unfolding of abstract reason now became the unfolding of a new, free, German society. In that period of historical crisis, the new vehicle for systematic philosophical knowledge was history. For German historians, politics and the ‘State’ represented the organic unity of Geist and Kultur. Kulturvolk had been replaced by Kulturstaat. The new ‘realpolitisch’ ethos of the post-1848 Prussian Historical School became orthodoxy and was to dominate German historical writing for almost a century. Even Burkhardt, whom modern historians have seen as being the School’s only effective challenger among German-speaking historians, shared Droysen’s conviction that history consisted of the gradual unfolding of freedom, it was the form not the principle to which he objected; and he denied that there was a ‘philosophy’ of history.

Nevertheless, regardless of how deeply embedded German historiography became in politics after 1848, its core remained intensely philosophical. Power existed in freedom; power’s unfolding was the counterpart of freedom’s unfolding. Nation was the expression of collective Geist and the empirical form of the unfolding of purpose/spirit. Nation as Geist gave meaning to historical understanding. For Droysen, to understand history was to combine the empirical and the spiritual. ‘In understanding’, Droysen wrote, ‘the entire spiritual–sensuous nature of man is completely active, at the same time giving and taking, producing and receiving’. Historical understanding was not about general laws, it was, he said, ‘relating materials from the past as left in the present to the idea of some future spiritual

goal’. Research was the means to achieve this understanding. In his research, Droysen sought to advance ontological understanding. And it was Droysen who first saw that it was only Geisteswissenschaften (his term, but one made famous by Dilthey), not Naturwissenschaften, which could provide meaning to understanding.

III

In the late eighteenth century and early nineteenth century, English-dominated Britain was a very different society from Prussian-dominated Germany. The problems the two societies were addressing were very different. The larger effects of industrialisation were yet to be felt in Germany. In contrast, Britain dominated world trade and its government presided over the largest empire in the history of mankind. In socially turbulent, industrially dynamic, Britain it could no more be agreed what should constitute ‘universal knowledge’ than it could be agreed what a ‘liberal education’ should mean. The working society, unlike Church and State, was pluralist rather than elitist. The gifted mechanic, chemist, or instrument-maker was as highly valued as the clever graduate. Science was as important as religion; and merit as important as patronage—particularly with the introduction of written examination in the university. If, at the beginning of the nineteenth century, research in Germany was mostly academic and philosophical, in Britain research was outside the academy and mostly connected to science and technology. The object of research was not transcendental knowledge from metaphysical speculation, it was material advantage from scientific method.

Trade and commerce touched most people in Britain, unlike the university which touched few. In 1820, the estimated first-year admissions to Oxford and Cambridge were around 400 each when the total population of England and Wales was around thirteen million. In contrast, by 1850, 47% of the total workforce worked in industry. Economic pragmatism

78 Makkreel, [Review], 356.  
79 ‘Understanding through research’ he said; J. G. Droysen, Historik (Darmstadt, 1967), 22, quoted in Makreel, [Review], 355.  
was a way of life. To the Germans, the soul of British Kultur was ‘Manchesterpolitik’. Treitschke remarked irritably how the English confused soap with civilization, and complained of ‘the flood of Manchester theory, which washes away the moral values of [British] life’. During the nineteenth century the public requirement of the academy was to train intellectually and morally sound future leaders for an empire on which the sun never set. The task for historians was not to advance epistemological and ontological understanding, but to pursue explanation of how Britain came to be the leader of the civilized world. The function of the academy was the liberal education of an elite, not research at the boundaries of epistemological and ontological understanding.

For the first half of the nineteenth century, the universities of Oxford and Cambridge were largely spectators to the transformation of intellectual life that was occurring in England. In contrast to German historians, most English historians worked outside the university and were not expected to hold academic chairs. The British understanding of national identity was derived not from philosophy, as it was for the Germans, but from British literature, from Britain’s libertarian political constitution, and from the society’s subtle understanding of the multi-layered and interdependent nature of rights and duties—from Government and society’s common, practical, understanding.

Oxford and Cambridge from the end of the eighteenth century until ‘the crisis of 1850–60’ were under increasing criticism for the standard of their teaching and learning. The examination system had been reformed progressively from the turn of the century, but

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81 David Blackbourn and Geoff Eley, The Peculiarities of German History: Bourgeois Society and Politics in Nineteenth-Century Germany (Oxford: Oxford University Press, 1984), 219. It was a point made also by Carlyle.


83 Most science was conducted outside the academy, and for every influential humanist inside the university, there were many more outside, for example: Carlyle, Ruskin, Macaulay, Dickens, Tennyson, Arnold, Eliot, Mill, Bentham, Huxley, et. al.

increasingly the narrowness and relevance of their curricula and the purpose of that education were being questioned. During the 1840s it became clear that if the universities did not reform, then Parliament would compel them to. Benjamin Jowett in 1847 asked if it was at all probable that we shall be allowed to remain as we are for twenty years longer, the one solitary, exclusive, unnational Corporation … a place, the studies of which belong to the past, and unfortunately seem to have no power of incorporating new branches of knowledge? 85

For history in the university, the problem was not so much one of reform but one of legitimacy. There was widespread doubt that it was a subject worthy of university study. It could not, it was felt, be considered dispassionately; it aroused prejudice. According to Tout, Gladstone proposed to forbid its teaching in the planned new Irish university, ‘lest it should excite theological or political controversy’. 86 Also, it was thought to be too intellectually undemanding. The point of the established literae humaniores subjects was not so much the knowledge obtained through their study, though that had value, but the intellectual rigour and mental agility their mastery required. They were difficult, and provided the type of mental training and mental flexibility desirable for, and in, future members of the governing elite.

History, however, seemed to demand little more than memory; it would, some argued, ‘lure the idle and the indolent from studies of greater severity and more lasting disciplinary value’. 87

Whatever the hesitation of the academic boards in the universities, the reading public had always shown a strong interest in history. English historians, for whom Macaulay represented the peak of readability, in their emphasis on prose style and accessibility, looked more to the standards of the quality press—the reviews—than to the standards of the specialist research community. Carlyle, Macaulay and Froude were particularly popular.

86 Thomas Frederick Tout, The Collected Papers of Thomas Frederick Tout, vol. 1 (Manchester: Manchester University Press, 1932), 94. Ireland was, though, a special case.
‘Historical mindedness’ grew alongside the strong and disturbing sense of the rapid, comprehensive, change that was occurring; and of which one consequence was a loss of belief in institutionalized religion. But it was very apparent that while Europe was consumed by revolution, English institutions—the constitution, the system of representative government—survived. In fact they flourished and were admired and envied by much of Continental Europe. The process of British constitutional development was unique and historical study appeared the obvious means to discover, thus to understand, its inherent principles. History was political and moral. Its purpose, in Macaulay’s much-quoted phrase, was to ‘supply statesmen with warnings and examples’. The story of how the constitution had grown into its present state, the perils that had been faced, and the courage and wisdom that had ensured its triumph, was a moral tale that ‘every young man should know’. The purpose of English historical research was the transformation of British history from a hearsay story of its kings to a source-based scholarly narrative of the institutions, processes, and motivations that made Britain’s story the ‘success’ it so demonstrably seemed to be. And that narrative was being produced from outside the academy more effectively than from within.

Within the academy, as well as the problem of legitimacy, the profession was faced with the question of professorial role. The transformation of intellectual life that was occurring saw the emergence of claims, particularly from the 1830s and driven by the scientific community, for professionalization and specialization. In the universities, professors and tutors scrambled to define and secure careers. For English professors of history, this meant securing recognition that professional, scientific, historical training was needed, and that only they were qualified to provide it. For tutors, it meant the establishment of a system of teaching that ensured students under their supervision achieved the finest results in the university examinations—a preoccupation of students since the beginning of the

88 The latter typified by such widely discussed novels and poems as, for example, Tennyson’s In Memoriam A.H.H, Froude’s The Nemesis of Faith, Seeley’s Ecce Homo, Mrs Humphry Ward’s Robert Elsmere.
century and which was to reach its peak in the latter half, to the chagrin of those who
abhorred the ‘machinery of cram’ that was its consequence.91 For the tutors, the teaching of
standards of thought and behaviour prevailed over the interests of single subjects.92 Only
later in the century, did colleges emphasise particular disciplinary strengths. Jowett had been
one of the first masters to send students of his college to the best tutors, regardless of college.
In the battle for hearts and minds waged between history professors and tutors, those
promising success in examinations were invincible when matched against an opponent who
could only offer the personal satisfaction of research using original documents and
specialized techniques.93 And that for a discipline that offered few career opportunities.
Even as late as 1910 Tout was complaining of the lack of ‘training in medieval technique’ in
the staff of the Public Record Office, that they were ‘appointed from the successful
candidates of the ordinary Civil Service examination, and are only historians by accident’.94

Professors were faced with a dilemma. Their mandate was to lecture and research.
However, if they wanted anyone to attend those lectures, the lectures needed to be
‘interesting’ rather than, necessarily, scholarly or erudite. As lectures, their pedagogical
mode was transmission of established knowledge, not exploration and interchange as
exemplified by the German research seminar. And if research was to have any instrumental
value, a requirement of Manchesterpolitik, then research meant preparing material that could
be used for the training of others in research techniques. The result for the institutionalized
profession was a prioritization of the accessible over the recondite, and the technical over the
theoretical. Professorial research was primarily a means to professional training, the teaching
of the research craft rather than epistemological and ontological discovery. Discovery was
for others.95

91 Pattison Memoirs, 89.
92 Reba Soffer, Discipline and Power: The University, History, and Making of an English Elite,
93 This is not to imply that tutors didn’t recognize, value, or practice scholarship.
94 Tout, The Collected Papers, 84.
95 Firth in his inaugural lecture at Oxford in 1904 declared that: ‘if the study of history means an
endeavour to add to this common inheritance of knowledge, surely the teaching of history means an
endeavour to train men capable of adding to knowledge? This, at all events is the principle upon which
I base my conception of my duty here.’ C. H. Firth, A Plea for the Historical Teaching of History: an
In drawing a distinction between tutors (‘lecturers’) and professors, the Cambridge Royal Commission emphasised the catechetical method of the former, implying active interchange, with the passive receptivity of the professorial ‘lecture’.

It was not until the beginning of the twentieth-century, when Bury, Tout and Firth tried to define anew the relationship between research and the professorial function that the question of advancing knowledge was addressed. Even then, because of the English empiricist ideology and antipathy to the philosophical treatment of the problems of history, knowledge was conflated with facts and causation in the phenomenal world. Advancing knowledge meant finding new facts about that world and then explaining their teleological significance. Ontological and epistemological understanding was unproblematic. Research was about new information enabling improved explanation.

Consequently, in England, arguments in the university regarding research within the history discipline were mainly practical in nature: how it was to be organised, who it should be done by, how it should be examined. The exemplary and much lauded Manchester university history research school lead by Tout achieved its prominence because it achieved administratively and professionally what the professors had been arguing for. Tout, like Firth, had the appetite, the stamina, and the resilience to fight the political, administrative battles. But Tout in Manchester, unlike Firth in Oxford, did not have the ‘big guns’ of the colleges, with their wealth and influence and numbers, firing at him; on the contrary, he had a ‘green-field’ site and the delegated authority to build on it. He, unlike Firth, was successful in establishing an acclaimed research school.


Cambridge University Commission Report of Her Majesty’s Commissioners Appointed to Inquire into The State, Discipline, Studies, and Revenues of the University and Colleges of Cambridge Together with the Evidence and an Appendix Presented to both Houses of Parliament by Command of Her Majesty (London: HMSO, 1852), 81.

But in that school, the *advancement* of knowledge meant the provision of better validated and ordered source material—as Tout said: the depositing of another ‘humble brick in the mighty edifice of learning’ which research was constructing.\(^{98}\) In a presidential address to the 1913 International Historical Congress in London, Tout argued passionately that the point of the research was to enable the production of ‘a critical edition of our early laws’ and to be able to ‘edit all our own chronicles and records’.\(^{99}\) But he never explained what basic research purpose those research products *served*. In an earlier article he had argued that the research ideal in history was the same as that of ‘physics and chemistry’, and that in the ‘historical ‘laboratory’ … our methods, then, must necessarily be the methods of the observational sciences … the study of history should be largely a study of processes and method’.\(^{100}\)

Powicke in his obituary to Tout, tried to introduce a more philosophical theme to Tout’s vision. The ‘spirit in which they were written’, Powicke wrote, was this:

He was concerned to understand the methods of mediaeval government, and to adjust the generalizations of the constitutional historian to the salutary experience of men, great men and little men, ministers of state and clerks living their lives of routine among associations now forgotten … [he] tried to work out in detail the interplay, from year to year, of administration and policy.\(^{101}\)

Though not intended to be, it was faint praise. It was still unexplained how that *wider* knowledge of the past was anything more than technically proficient antiquarianism. By itself it was not basic research in the epistemological and ontological sense; in the way that Germans such as Schleiermacher, Humboldt, Niebuhr, Ranke, Droysen and Burkhardt saw research.

IV

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The research benchmark for English academic history had been set by Stubbs at Oxford in the second half of the nineteenth-century. Stubbs, Regius Professor at Oxford from 1866 to 1884 (and later to become Bishop of Chester, and of Oxford), was recognized internationally for his scholarship, but for him, like his fellow High Churchman Pusey, theoretical reflection was irrelevant to scholarship; religion and the archives provided all that was required.¹⁰² ‘I desire to introduce myself to you’ he had remarked in his inaugural lecture of 1867, ‘not as a philosopher nor as a politician, but as a worker at history.’ History, he said, was ‘the ebb and flow of human progress … the leading on by the divine light … [we must] believe and trust that the victory of light and truth is drawing nearer every day’.¹⁰³ This was religion of a different sort to the spiritual intuition of Ranke and Schleiermacher. It produced a history which, in Reba Soffer’s rather merciless judgement, was ‘essentially a theodicy in which moral forces triumphed over the immoral’, and which ‘was not only didactic, but mindlessly complacent’.¹⁰⁴ Maitland, with his characteristic poise and warmth, provided a more forgiving, but no less critical, judgement:

> He loved the concrete, and was not happy among abstractions of a high order, such as a contrast between ‘rights, forces, and ideas.’ We think how Seeley’s agile mind would have played round, and perhaps played with, such a theme.¹⁰⁵

Seeley’s agile mind had, indeed, played round with ideas, though it was disciplinary direction, not ontological understanding that he saw as the challenge. It was to understand that the discipline’s purpose was not constitutional law, nor ‘great men’ biography, nor social commentary, but to ‘exhibit the general tendency of English affairs in such a way as to set us

¹⁰² Mark Pattison noted the hostility towards German scholarship in Oxford in the mid-nineteenth-century; he referred to ‘Dr. Pusey’s’ extreme irritation with ‘the mental activity prevailing in the German universities’ and complaining of, in Pusey’s words, their ‘theories which pull to pieces what has been received for thousands of years’. Mark Pattison, Memoirs, 79–80.


thinking about the future and divining the destiny which is reserved for us’.\textsuperscript{106} The state was the vital subject of contemplation, but not as Geist and ontology, rather, as the empirical entity from which the causal ‘laws by which states rise, expand and prosper or fall in this world’ may be determined.\textsuperscript{107} Its philosophical core was firmly Naturwissenschaften, in the inductive-science manner of Comte and Mill, not Geisteswissenschaften in the idealistic and hermeneutic manner of Hegel and Droysen. It was, however, a challenge not widely accepted by his colleagues—though, it did generate strong political and public interest, and his system of ideas and analytical method did strongly influence subsequent imperial scholarship.

Firth at Oxford, Acton and then Bury (and Maitland) at Cambridge, also left distinctive and different legacies. Maitland’s was a subtle, quietly philosophical, legacy which illuminated, through his scholarly work in legal intellectual history, the deeply conceptual nature of historical inquiry. He exerted great influence in the field of legal history, but on the larger discipline, other than set an exemplary standard of scholarship, he had little effect—not that influence was something Maitland sought.\textsuperscript{108}

Of the Regius Professors, it was only Bury who worried philosophically about history’s mission and methodology. He understood, he said, that history was not a ‘higher zoology’, that fact-gathering was not an end in itself—not that colleagues such as Acton, Seeley, Maitland, or Firth could be accused of that assumption—but found it difficult to reconcile his intuitive notion of history as Geisteswissenschaften with his firm belief that facts came first: that principles must not be ‘superimposed upon the phenomena’, but be ‘given by the phenomena’.\textsuperscript{109}

At his inaugural lecture, Bury had sought to promote history as science, but one year later acknowledged Geist to be essential to historical research:

\begin{footnotes}
\item[107] Ibid., 11, 107.
\item[108] See discussion below.
\end{footnotes}
The interpretation of history that shall be more than a collection of plausible labels must grasp the vital process, perceive the breath and motion, detect the undercurrents, trace the windings, discern the foreshadowings, see the ideas travelling underground, discover how the spiritual forces are poised and aimed, determine how the motives conspire and interact … history as a disclosure of the evolution of thought has an independent realm of its own and demands a distinct interpretation, to prepare for which is the aim of historical research.110

It could have been Humboldt, or Ranke, or Burckhardt speaking, but Bury’s motivation remained, primarily, deeper rational understanding, not deeper holistic (intuitive/rational) understanding.

Despite Bury’s idealistic counsel, British historiography remained firmly literary and moralistic—though it had other critics. In an unpublished address, with Macaulay and Froude in mind, York Powell observed that:

Unfortunately, history is frequently written as a party pamphlet or as a treatise on morality; but the proper view is to treat history as an accumulation or assemblage of facts respecting humanity en masse, and not respecting single individuals. Literature, on the other hand, is concerned with the expression of human emotions in an artistic manner. A history may, of course, be a model of exposition, but that is not its true raison d’être. Such histories are usually untrustworthy and should be read for their style and not for their history. Darwin’s excellent faculty of exposition is an advantage, but it is not the end of his works.111

But York Powell, despite ‘his vast knowledge and his ready, many-sided brain’,112 never was able to say what he thought the raison d’être of an accumulation of facts was. Science’s raison d’être seemed clearer to York Powell than history’s. Three years later he stated his view that as history was ‘a scientific pursuit … a branch of anthropologic science’, then ‘philosophy of history’ was the search for some form of predictive understanding, which,

110 Ibid., 52, 59.
ultimately, must ‘remain insoluble by the legitimate processes of history’. York Powell could describe history’s form, but not its purpose. Unlike Droysen, he had not perceived the methodological distinction between explanation and understanding; that history required both empirical evidence and hermeneutical understanding. But that is not surprising. In Germany, hermeneutic theory had been intrinsic to academic religious and classical scholarship since the Reformation; in Britain, there was an academic tradition of religious and classical exegesis, but not hermeneutics.

Maitland, who had a high regard for German scholarship, had always understood, working as he did in legal history, that historical research was interpretive and conceptual. But Maitland too, like York Powell and Bury, could not escape the British positivist episteme. In 1890, when reading Otto Gierke’s Political Theories of the Middle Age, he had complained that ‘Gierke’s great book … is a splendid thing though G. is too metaphysical’. But the more he looked into English legal understandings of such notions as ‘the State’ and the ‘Corporation’, or ‘the Crown as corporation’ (‘the king is dead, long live the king!’), for example, the more he saw that behind them lay—unarticulated and undefined—the metaphysical notions of matter, form, agency, and purpose that had long preoccupied the Germans. But England, he realized, unlike Germany, lacked the conceptual framework to link the ontological with the practical.

In 1900, while translating Gierke’s book for British publication, Maitland had commented to Henry Sidgwick that

I shiver on the brink of an Introduction … T. H. Green and his disciples have not properly prepared the British public for a vast number of ‘general wills, or I should like to say, ‘group-wills’; but if they stop short at giving the State (or more vaguely ‘the Community’) a ‘real’ will, surely they make philosophic shipwreck. Every community, though it be a ‘one-man

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115 Frederic William Maitland, “Translator’s Introduction”, in Dr. Otto Gierke, Political Theories of the Middle Age (Cambridge: Cambridge University Press, 1900), for example, vii–xii, xv–xviii.
company’, must have its group-will … All this means that, were I in Cambridge, I should plague you with questions. There are a lot of very interesting ‘juristic’ theories going around—in America the conflict has practical consequences—and, so it seems to me, the choice must lie with the philosopher who will tell us what is real.  

Fortunately for Maitland, he didn’t become ensnared in Green’s and Sidgwick’s distinctly English ethical reworking of Hegelian and Kantian thought. Those speculations would have been of little help to his quest. It was better understanding of common understanding that Maitland sought, not metaphysical speculation. Applied research, not basic research, was the means to the end he sought.

V

During the nineteenth century, British scholarship made no original contribution to speculation about the nature and scope of historical knowledge and, despite Bury’s sustained epistemological probing, did not until Collingwood.  

In England, history professors, in their renewed efforts to overcome academic scepticism regarding modern history’s intellectual legitimacy as a university discipline, sought to emphasise research credentials and used the German model as their reference for research practice. They sought to demonstrate specialist knowledge, and by that means justify the discipline’s position in the academy. The research emphasis was on technical craftsmanship—the learning of a research trade and the hard-won knowledge that accreted through familiarity with sources. However, the motivation and context for German historical research was opposite from that of English historical research. German historical research resulted from idealist inquiry into knowledge of ‘being’.  

German historical research was a means to deeper epistemological and ontological understanding of Geist and Kultur. It was driven by the instinctive, irrational, desire to know more profoundly. German research was basic research from which intellectual discovery

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116 Letter to Henry Sidgwick, 22 January 1900, *The Letters of Frederic William Maitland*, 209. The issue in America was that of the authority and ‘rights’ of the financially aggressive and predatory private corporations.


In contrast, English historical research resulted from the conviction that history was both practical and morally uplifting, and that causal connections could be found that would be useful to both society and government. English historical research was the means to a more professional narrative of British political, institutional, and social evolution. English research was applied research whose purpose was to aid scholarship.

In Germany, by the end of the nineteenth century, understanding itself had become historicized. The conception of understanding as a process meant that there was no longer even a methodological gap between history, hermeneutics and ‘research-science’.119 The work of academics such as Wundt, Simmel, Droysen, Burkhardt, Dilthey, Windelband and Weber effectively combined history, epistemology, psychology and social psychology. Aesthetic and cultural critique were as important to historical understanding as history and epistemology—and aesthetic and cultural critique needed historical and psychological understanding. Mythology, archaeology, philology, anthropology, philosophy, psychology and history were interdependent modes of inquiry used to advance knowledge of knowledge. In England, disciplinary history was alienated from cultural and aesthetic critique. Exploration of the conceptual and abstract was part of the literary discussion of art, culture and taste. The justification of knowledge for its own sake derived from the literary imagination of British Romanticism, not from public notions of national development. In Britain, knowledge of knowledge became the province of an aestheticism which sought disengagement from the values of the utilitarian, industrial, society that history sought to explain and justify. The spirit of English conceptual inquiry was typified by the complex Victorian Hellenism of such scholars such as Pater, Arnold, and Ruskin—just as the spirit of German inquiry had been typified in the German Hellenism of such scholars as Herder, Winckelmann and Boeckh. In Pater’s The Renaissance: Studies in Art and Poetry, the one modern discussed is Winckelmann who, for Pater, exemplified the ‘spirit’ of ‘enthusiasm for the things of the intellect and the imagination for their own sake’.120

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119 Schnädelbach, Philosophy in Germany: 1833–1933, 112.
History in the English academy was never seen as a means to deeper existential understanding. History’s main purpose was didactic, and academic research’s main justification was pedagogic. By concentrating on history’s form, and research’s method, attention was diverted from the question of the epistemological purpose of historical research and the ontological function of historical narrative. In Australia, with its different cultural settings and pedagogic traditions, history’s ontological function came into clearer focus. But research’s purpose as research, remained unexamined.

Discovery Under Different Skies

Whereas in England the translation of the German professional history research model had elided its philosophical core and institutionalized research in purely methodological terms, in Australia the translation of the derived English model elided the matter of the actual research product and institutionalized research in terms of accreditation. The research product did not, necessarily, have to demonstrate arcane knowledge and specialist technique—such as that which Stubbs at Oxford and Tout at Manchester had accomplished—it should simply be something that was published. The fact of publication, assuming a reputable imprint, signified the required research competence. Research credentials were what was required for professorial selection to the colonial academy in order to assure, and reassure, the ‘colonials’ that ‘antipodean’ was purely a relational term signifying geography, and not a metaphorical one signifying academic standards.

But history in the Australian academy could never finally be history as it was in Oxford or Cambridge, no matter how hard anyone tried to make it so. Any institution in Australia, if it was ultimately to flourish and develop and have real social value, would need to adapt and reflect the actual, not imagined, soil from which it grew; and even conscious imitation

produces change. British history, though shared, could not be seen with the same eyes. Expatriate Britons could never know, what it felt like to be an Australian ‘vulgar’ in Oxford—thus, how a ‘native-born’ Australian would ‘read’ the British historical narrative. Just as native-born Australians could never know what it felt like to one from the centre now living at a new, raw, periphery. Nevertheless, from its inception, the teaching of history in the Australian academy was British. The history that was taught was the history taught at Oxford and Cambridge. That history was considered essential to a liberal education, and through a liberal education the new ‘currency’ elite could gain knowledge of the civilized world and of the way the civilized world thought and acted. Such a framework did provide intelligibility and coherence for almost eighty years, since, as seemed self-evident, Australia’s history was the history of Britain and the British in Australia. The raising of awareness, not discovery, was the main goal. But the light was different here, and one saw differently.

Nevertheless, for many years, historians in Australia were never much concerned with interrogating the purpose and function of the discipline, and even when they did, there was more than enough work to be done just establishing the discipline and securing its sources and resources. Further distracting them from disciplinary self-reflection was, with the rise of a national culture and the establishment of the nation-state, the discovery of Australian and colonial history as rich fields of their own, with their sources as yet unordered and unexplored (‘enormous and unsifted’ was George Arnold Wood’s description), but requiring incorporation into the public record as quickly as possible. If working with original sources was the core of research activity, as they had been told, then ordering the national documents into a scholarly narrative of the ‘the Australian story’ was research’s clear purpose.

Ultimately, however, such history risked losing a ‘serious’ purpose. It appeared that way to the Australian historian Max Crawford. In a reflective article in 1962 he wrote that

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121 With W. E. Hearn at the University of Melbourne in 1855.
122 ‘Currency’ lads and lasses’ was the ambivalent term used by the British-born to describe the local-born.
123 Wood to James Tait, 9 May 1924, quoted in R. M. Crawford, ‘A Bit of a Rebel’: The Life and Work of George Arnold Wood (Sydney: Sydney University Press, 1975), 356. Wood was then the Challis Professor of History at the University of Sydney.
‘Academic history seemed all too often to be supremely efficient in ascertaining facts and ineffective in using them for any serious purpose’.  

He had told his students that if the historian is ‘to offer any explanations of the problems intelligent people want to solve’, then it is more than just the story of ‘Lilliputian governors’ that those people desire. His search ‘for a legitimate history’ led him, he said, to Marc Bloch’s ‘sense of a history that might help one, not only to know, but to understand’. It was an issue that would receive intense debate when another Australian historian, Manning Clark began to publish his magisterial but controversial six-volume work: *A History of Australia*. Clark’s was messianic history. Early historians of Australia, Clark wrote, had not understood the proper ‘ends’ of their task; they ‘had not observed the dictum that the whole point of telling the truth about the past was to help the people dispense with the past’. They had not challenged the myth of our derivative, British, past. ‘They had not essayed the task of writing the history of that Australia which was coming to be.’ For Clark, like the Prussian nationalist historians such as Trietschke, history should shape as well as describe. The historian had a role as prophet.

In England, with its social and institutional robustness and common-sense-confidence, the question of history’s spiritual function and focus could remain somewhat peripheral to academic practice—despite the perennial history-as-science-or-art argument, which was mainly an argument over form. In England, form, content, and function remained aligned to personal style. But in Australia, the question of history’s purpose and focus—*Whose past? What past?*—became more problematical. For there is an anxiety which is real, even if its cause is imagined, induced by being thought of as ‘peripheral’ to the civilised world’s ‘centre’—being thought of as derivative and culturally ‘thin’. In Australia, with this subterranean current of existential anxiety, ‘spirit of place’ and symbolic meaning became

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125 R. M. Crawford, “Theory Method Folder (sic)”, Crawford Papers, University of Melbourne Archives, Box 38.
126 Crawford, “The School of Prudence”, 28, 29.
central to the elucidation of the national Geist and national Kultur. The questions: Who are we? What is Australia? Where do we belong? were questions deeply embedded in local webs of meaning and collective sensitivities. The question of what should be academic history’s deeper purpose in Australia was not easily answered. In exploring the country’s cultural meaning and existential anxieties, literature and poetry were being used just as effectively as vehicles for understanding. For Australian-history (as distinct from history in Australia) the boundaries between literature and history were amorphous when historians tried to capture that existential edge, that special ‘consciousness’.

With any national or ethnic history, that history can only be explained adequately through both material and psychological terms—through Kultur and Geist. In Australian cultural memory, such notions as loss, dislocation, failure, trust, distance, ‘home’ have an inflection that is both local and existential. Niebuhr, Ranke, Droysen and Burckhardt had always understood that if understanding was the purpose of historical inquiry, then it was the spirit and cultural consciousness of the people or site under investigation which was the research focus—that the material facts were merely the phenomenal manifestation of the Kultur’s animating spirit and consciousness. Thus, certain truths are better told by artists than technicians, for it is as much through image and metaphor as factual terms that the ‘psychic currency’ within a community is understood. For Australians, the psychological effect of light and landscape, or the connotative impact of the words ‘convict’, ‘bush’, or ‘England’, are not simply explained. But historiography without them is mere antiquarianism or arid scholarship. ‘If a poetical work unites content and pure form’, said Ranke, ‘everybody is satisfied’. 129 The power and influence of both Keith Hancock’s Australia, though written as a history, and Vance Palmer’s The Legend of the Nineties, though written as cultural criticism, derived from their capture of an authentic, deep, Australian ‘spirit’. Max Crawford throughout his Knaplund Lectures at the University of Wisconsin used selections from Australian poets to capture and convey essential Australian perspectives. He concluded his

lectures with two verses from James McAuley’s poem ‘Terra Australis’. Poetry captured that Australian ‘lived experience’; and it was only ‘lived experience, as Dilthey saw, that could connect emotion to reason and transform mere explanatory understanding into meaning and understanding that was visceral.

However, as the Australian experience was to show, this subjective, literary, element introduced a danger. Unless there was a rigorous understanding of, or at least agreement on, the theoretical and philosophical foundations on which historical knowledge and historical understanding were based, then incorporation of spiritual intuitions will cause confusion regarding the form and purpose of history, and consequently confusion over the substance of historical research.

For Manning Clark and Max Crawford, knowledge through poetic understanding (feeling and intuition) and understanding as ontological insight were central to history’s meaning and purpose, and for both historians, history’s literary foundations were central to history’s larger function. ‘Neglect of the art of narrative or even blindness to the existence of such an art’ is as much a danger as its opposite, Crawford had concluded; but was unclear how the dangers could be mitigated. The selection of an appropriate interpretive framework was a dilemma: to operate without a framework was to choose ‘inaccuracy and incoherence in describing chaos’, but to operate within an unsound one was ‘to choose intelligibility and coherence in describing a myth, and then to baptize the myth as history’.

But for Clark, the literary imagination was primary to history’s effectiveness; history and literature were one. To be great history, history had to be great literature. In a lecture in 1954 Clark had declared that ‘to be great as literature—the aim of all historians—it must be written by someone … who has pondered deeply over the problems of life and death. Writing in 1990, a year before his death in 1991, he re-iterated that history should be about

130 R. M. Crawford, An Australian Perspective (Madison: The University of Wisconsin Press, 1960), 76
those deeper, more profound, emotional and psychological forces that shape the ‘human heart’ and society:

The story of the past should have the effect of all great stories. It should increase wisdom and understanding. It should make the reader aware of what previously he had seen ‘through a glass darkly’. It should turn the mind of the reader towards the things that matter. It must bring the reader to the frontier where music takes over from words.133

His six-volume *A History of Australia* was true to his espoused philosophy, and all six volumes attracted strongly divided opinion on their merit as history. Many critics declared it worthless as history. For one it was ‘history without facts’,134 for another it was bereft of ‘objective historical truth’ and was purely Clark’s ‘preconceived vision which he wished his fellow Australians to absorb’.135 But it also had many supporters. One historian felt that ‘Clark’s great achievement was to imagine Australia … so well he helped us all to do it’.136

A literary critic wrote that Clark’s prose ‘soars, not with the coloured phrases of the novelist [a pejorative phrase of the vitriolic critic, Peter Ryan] but with the attempt to generalise, and in generalising to imagine, one deeply felt, highly contestable, truth about his country’.137

The controversy made evident the fact that the question of what history was for, could be no more easily agreed than what history was. What knowledge of the past were Australians seeking? What ‘truth’ did they seek? What was to be discovered?

Clark was unwavering in his view that it was from the subjective exploration of the ‘mystery at the heart of things’ that meaningful truth would be discovered. The type of truth determined the type of evidence—an expression in a portrait; the ‘spirit’ of a landscape. For Clark, like Ranke, the most subjective was at the same time the most general truth. Truth was

137 Peter Craven, “The Ryan Affair”, 178.
not found by logic, it was apprehended. It was the artist’s truth, truth about ‘life’, not the scientist’s truth. For Clark, the ‘measurers’ and ‘engineers of the human soul’—such as the Marxist historians—were the ones ‘who would silence the uproar, the clatter of life, the collision of mighty opposites; the ones who wanted to substitute a superficial certainty for a profound doubt’. As would the social scientist historians, who were ‘distinguished by their shallow and perfunctory treatment of the problem of human evil’. ‘There had been an earlier attempt’, he said, ‘to write a textbook history—which would be very ‘yes and no’ in the accepted textbook style, and very dull. But that sort of truth was not within me. Now I wanted to write history as a story—history as an art’.  

Imagination and subjectivity were to be as important as empiricism in mining the past; and even Clark’s most vituperative critic, Peter Ryan, acknowledged that Clark had a subtle and cultivated mind.

Max Crawford, also, had retreated from ‘measured’ history. By the end of 1958, when he gave his Knaplund lectures, Crawford was reaching towards what Robert Dare has described as his ‘getting of wisdom’. According to Dare, Crawford had concluded some years earlier that the historian’s intellectual modes were intuitive rather than syllogistic and that thinking historically is, to quote Crawford, ‘a training in seeing things as they really were’, which is ‘inevitably and inescapably a training in moral sensitivity’. Crawford had concluded that a historian needed to see beyond facts to the significance given to the facts by human values; human values transcended reason and included, amongst other things, empathetic understanding and an intuition of transcendent moral values.

The issue that remained unexplored, however, was the relationship of history to the academy. Was academic research needed for writers to produce (Clark’s) history as art, or (Crawford’s) history as training in moral ‘sentiment’? Conversely, was historical research needed for the academy’s larger research mission of advancing epistemological and ontological understanding? Alternatively, was history in the academy primarily for research

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138 Clark, A Historian’s Apprenticeship, 4, 5, 19.
139 R. M. Crawford untitled lecture of 1949, Crawford Papers, University of Melbourne Archives, Box 38, quoted in Robert Dare, ‘Crawford on theory and methods of History’, in Max Crawford’s School of History, eds Stuart Macintyre and Peter McPhee (Parkville: History Department, The University of Melbourne, 2000), 37.
purposes, or purely for purposes of liberal education with research its disciplinary complement? The questions were never asked, since it was assumed, it seemed, that history was a form of coherent knowledge whose function was edification and instruction.

II

The incumbent of the first (solely) history chair in Australia, the Challis Professor of History at the University of Sydney, was the Balliol-trained Englishmen, George Arnold Wood. A. L. Smith, Wood’s Balliol tutor, had described the young Wood as the typical Manchester product ‘dyed in the wool with Puritan nonconformity, Cobdenism, Gladstonianism, Liberalism, the humanitarian ideals of John Bright and the political philosophy of John Morley. In his inaugural lecture in 1891 Wood had expressed his conviction that the best historical writing ‘of to-day’ was scientific in method, sympathetic in spirit, and utilitarian in motive. But by utilitarian, Wood did not mean material utility. The scientific method would teach a student to think ‘clearly’, but the sympathetic spirit would enable the historian to ‘teach’ what is more important: ‘to feel strongly, and to feel rightly’. ‘We should enlarge our conception of the study of History,’ he said, from the endless reading of works of ‘historical artisans’ (he was referring to Stubbs and Freeman); that was not the purpose of a school. After his death, in 1928, a colleague described him as ‘a good deal of a Fransciscan, a humanized puritan’.

Wood’s assumption of a moral imperative metamorphosed in Crawford into the assumption that moral sensitivity was history’s transcendent purpose (Crawford had been taught by Wood, and Wood had sent Crawford to Balliol). But for Wood, unlike Crawford, the nature of historical knowledge and the purpose of historical understanding were

140 George Arnold Wood (1865–1928). Challis Professor of History, University of Sydney, 1891–1928.
141 R. M. Crawford, ‘A Bit of a Rebel’: The Life and Work of George Arnold Wood (Sydney: Sydney University Press, 1975), 47. This was a reminiscence of a reminiscence, thus hearsay.
unproblematic. For Wood, the purpose of historical understanding was ethical education, and morality was the highest educational purpose. For Crawford, the purpose was less didactic, but it still related—as it did for Wood (and also for Acton)—to moral ‘being’, not epistemology.

At the University of Adelaide, the Balliol-trained Australian, George Henderson, anticipated Wood by establishing, in 1906, ‘systematic and scientific’ research into Australian history.145 ‘Systematic and scientific’ were the words he used for the kind of historical training he advocated. Seeley had been for Henderson (as for Tout) inspirational.146 ‘Such a man switches on the electric light in the dark chambers of history’, he declared. ‘The great facts of history’, he said ‘may be like the great facts of human nature—outward manifestations of great laws working in and through the national mind.’147 Later, in 1941, reflecting on forty years of research and writing, Henderson’s conclusion was less scientific and less Seeley-like: that those who would understand the history of a people should live with them long enough to understand their point of view.148 Henderson had completed a two-volume history of government in Fiji, and the years he had spent there affected him deeply. He now saw the need to see beyond historical ‘facts’ to a wider knowledge of Geist and Kultur. He encouraged his students to see that anthropologists and historians had much to offer each other.149

In 1913, in Melbourne, the Englishman Ernest Scott, a ‘self-taught exile’, journalist, and free-lance historian with no university training but with two published works of Australian history to his credit, succeeded Elkington150 as Professor of History. He was to remain in the chair for twenty-three years and establish the history school at the University of

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147 Kwan, “G. C. Henderson”, 38
148 Ibid., 46.
149 Ibid., 46.
150 Who had succeeded Hearn in 1879. Elkington produced no original historical scholarship in those thirty-three years.
Melbourne as a centre of Australian historical scholarship. Scott continued to teach British-history-based survey courses, but emphasized the study of primary sources and the process of historical interpretation. But it was positivist history which Scott championed—its method was ‘the testing of evidence in the same way as a man of science tests his materials and checks his experiments’. He admired Ranke and what he assumed was Ranke’s objectivity. Research was the preparation required of the historian in order to create the objective historical record. Scott, though interested, was untroubled by theoretical questions. His aim was to settle, not to add to, uncertainty. The purpose of history, he stated, was ‘to mark the stages of human progress’.

Researchers in Australia, at least until Hancock, were not troubled with technical or conceptual problems. And for Hancock, the issues were not conceptual problems as such; they were just the result of a natural bent and a Balliol training which caused him to ‘concentrate on particular questions which might illuminate the whole’. For Hancock, as for Australian historians, it was a liberal, humanist, empiricist ‘whole’, not an epistemological or ontological ‘whole’ which the Germans had been, and were, interrogating. And for Australian-history research, specialist technique was not required as it was for the English medievalists. The language was English and modern, the location of material and its authenticity unproblematic, and the matter unsubtle being as it was the record of comparatively recent administrative, economic and political action. There were practical problems such as limited resources, and large volumes of unorganized material, but no problems of conceptual interpretation, or technical difficulty. The epistemological foundations of the discipline were never problematic.

152 Ernest Scott, History and Historical Problems (Melbourne: Oxford University Press, 1925), 111.
153 Ibid., 19.
154 Sir Keith Hancock (1898–1984).
Of all the academic ‘historians’ in Australia charged with disciplinary responsibility, from Hearn to Crawford, it was only Crawford who had worried about the philosophy of history, and that worry translated (as discussed earlier) into confusion over disciplinary direction and professional purpose. As he later reflected:

Any one of us might have found it difficult to state precisely what we were about … We were certainly interested in anything which might be termed ‘philosophy of history’, though well aware that respectable historians regarded it as ‘sheer drivel’.

By ‘respectable historians’ he meant eminent historians from the British school of historical positivism. In 1938, the year after he succeeded Scott at the University of Melbourne, Crawford introduced a new Theory and Method unit for Honours students, but that unit, as he said, was ‘tired work’ from the start, and never provided any of the answers he was looking for. The preoccupation with orthodox historical forces and structures did not explain, as he later said, the ‘the drama [italics added] of necessity and freedom’.\(^{156}\) Explanation, he argued, had to go behind the epiphenomena of agency and structure. In the Theory and Method classes students compared the positivism of such thinkers such as Dray and Hempel to the idealism of such thinkers as Croce and Collingwood. From Croce they learned that history was elaborated ‘as intuition and imagination’, and that it was always contemporary. History was not science, but the past re-lived, Croce had argued. From Collingwood they learned that 'all history is the history of thought'.\(^ {157}\) It was the same conclusion that the German scholars of the eighteenth and nineteenth century had reached. Historical understanding was about meaning in lived experience, and Geisteswissenschaft was the method.

There was, however, a profound difference between the philosophical frameworks of the nineteenth-century German academy (in Berlin), and the twentieth-century academy in


Melbourne (and Oxford and Cambridge). To the academy in Melbourne, the fact of inquiry such as that pursued in Theory and Method unit demonstrated the rigorous nature of a discipline whose foundations, thus, were assumed to be sound, and whose purpose was assumed to be educational. It was inquiry within a moral and humanist frame. Historical inquiry was not, as it was initially in Berlin, one aspect of the search for knowledge of knowledge beyond culture and morality. Historical research in the Australian academy was not basic research. It was research within cultural boundaries whose object was to expand the number and quality of educational history-products.

The question of what kind of knowledge historical research provided, and why that knowledge was wanted, remained open.

IV

In 1991, looking back (from the ‘incipient post-post-modernist age’) on eighteen years of professional practice, Greg Dening concluded that behind his professing of history was the belief that the ‘ultimate forgery is positivist realism’. Hearing, reading, learning, making history was the antidote, he argued, to ‘the forgeries inherent in modernism, especially virulent, blind positivistic modernism’. He was repeating, he said, what he had said in 1972 in his inaugural lecture: that history was a social system. For Dening, history was an active (subjective and inter-subjective) process that expanded our sense and ways of knowing. In 2007 he wrote:

I suppose that if there is anything central to what I do as I see it, it is that: exploring the smallness and largeness, the particularity and generality, of every cultural act. I've gone to those disciplines of knowledge that respect the wholeness of human living.

158 Boeckh once explained that the purpose of this study was ‘to know my own knowledge of the knowledge of the [alien] past; for only then can I assign it a place in my own thought, which is an act of judgement’. August Boeckh, “Idee der Philologie”, in E. Bratuschek, ed., Encyklopädie und Methodologie der philosophen Wissenscchaften (Leipzig, 1877), 10–11, quoted in Gossman, Between History and Literature, 278.


In his inaugural lecture he had been highly critical of rigid disciplinary specialization which ‘make interdisciplinary dialogue and activity virtually impossible’; where the disciplines were ‘erroneously conceived of as logical universes, rationally distinct in object and method’. He was not, though, advocating ‘another form of ‘academic ideology celebrating the unity of knowledge’. There are, he said, ‘other ways of discussing theory and method of history and interdisciplinary relations than in a philosophical and epistemological mode’. History was an active, present-centred, process: ‘ethnography and history are not something one learns: they are something one does’. History was performed through imaginative reflection on the representation of the past that was being read or heard. In that way, and only in that way, was the representation realised as history. Imagination was the vehicle for understanding. ‘Empowering imaginations’ was the aim of his teaching. Ways of seeing were ways of knowing. Earlier he had reflected that

History … is, I think, only a sentence in a conversation about ourselves … It reflects the reality that in our present is all our past and in our person is all our culture. Like every sentence in a conversation, it ends a part but not a whole. Nothing more.

History was in our head. For Dening, culture was the form and history the glue of an active, constructed, social reality. ‘History’ was training in cultural sensitivity which intensified the individual’s historical consciousness, and through that heightened consciousness the past and the present were brought together in a ‘living’ collaboration. History enabled a higher awareness of a cultural living-in-the-world which would lead, in turn, to a more holistic humanism. In this vision, history is a strategy for anchoring reality in the human subject and in intersubjective relations. It works deliberately within an ontologically firm sense of ‘being’ in the world, and within an epistemologically stable moral frame. It acknowledges the ontological and epistemological unknown, but does not seek to

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162 Ibid., 674.
look beyond the selected humanist frames. Rather, the search is for answers to what it is to be human. For Dening, history’s task is to enrich an understanding of our humanity, of how to be human, of how to live.

Dening’s was a particular vision, which he pursued with energy and conviction and he has been an influential voice in the Australian academy. However, his philosophy of history and research focus raises again the question of research in the research university, and history in the research university. What role does historical research have in a broader basic-research program, and what necessary function does the academy perform in the realization of historical research?

In the formal definition of ‘Research & Development’, a distinction has been drawn between basic research, strategic basic research, applied research, and experimental development: ‘Production’—producing useable products—is a separate category with its own sub-category definitions. With his intuitive sense of holistic knowledge and rejection of rationally distinct disciplinary universes, and in his refusal to accept limits to ways of understanding, Dening’s work reflects the spirit of pure inquiry which defines basic research. But his research, with its deliberate (and orthodox) assumption of a humanist, moral frame, and with its pedagogical focus, is not, strictly, basic research. If advance in knowledge and understanding through discovery is the focus of basic research, then basic research would imply exploration at epistemological and ontological boundaries. Dening’s enlargement of humanist understanding enables the subject as cultural-being to see that being more clearly, but that clearer vision is more the enhancement of bounded understanding than advancement of a basic research edge. As cultural beings, history is the air we breathe, but history as basic research in the research university is not that history. In basic research, history and historical consciousness are a field and a mode of inquiry. Nevertheless, Dening’s work problematizes the ethos of basic research. What does ‘advance’ mean? What do we want new knowledge for? Is the following of an irrational urge to ‘know’ (curiosity-driven basic research by “knowledge-intoxicated” men)\textsuperscript{166} intelligent behaviour? Research alone is not sufficient;

\textsuperscript{166} The phrase is from: Australia, Committee on Australian Universities, Report, September.
there remains the need for the ‘experimental development’ of products to assist us to
determine how we should behave in our particular cultural moment.

In the twenty-first century, if it is accepted that research is the distinctive competence
of the research university, then the question of what ‘advance’ means in relation to
knowledge and understanding, and what role history research might play in that advance,
remains central to history’s future in the academy, and to the direction of history research.

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*1957* (Canberra: Govt. Printer, 1958), 10.
CHAPTER 3

KNOWLEDGE AND UNDERSTANDING

It is said that there are, besides Dr. Einstein himself, only two men who can claim to have grasped the Theory in full. I cannot claim to be either of these. But I do know a good thing when I see it … the attempt to conceive Infinity has always been quite arduous enough for me. But to imagine the absence of it; to feel that perhaps we and all the stars beyond our ken are somehow cosily (though awfully) closed in by curtain curves beyond which is nothing; and to convince myself, by the way, that this exterior is not (in virtue of being nothing) something, and therefore—but I lose the thread.

—Max Beerbohm: The Incomparable Max¹

By contrast, Schrödinger never repeated his 1926 coup with the five papers on wave mechanics … Certainly, he remained one of the major participants in the professional dialogue about quantum physics right up to 1940 … But, increasingly, he was inclined to cross the line between problems that were soluble and questions whose answers were out of reach … [this biography] shows us how easily this can happen, and how a scientist's personality and nonscientific beliefs can help direct—or misdirect—his intellectual attention.

—Stephen Toulmin: ‘A Question of Character’²

I do not suppose that I have gifts as a “political theorist.” There is, perhaps, too much sensibility mixed up with my thought—a relapse into an “English idiom” which may confuse international exchanges. Yet the experiences of my lifetime are ones which require a response which cannot be simply negotiated within the stratagems of “Theory”.

—E. P. Thompson: The Poverty of Theory:³

History and Function

One particular problem for the academic history enterprise is that because the academy has never actively tried to integrate disciplinary research, nor differentiated between research, development, and production, the end to which academic history research has been directed has been discussion within history—either through specialist research articles, or developed

pedagogical study-material, or commercially-published monographs. Consequently, the question of where the discipline’s research edge might lie in relation to the wider epistemological and ontological research edge, has not been articulated—other than in the sense of general acknowledgement that any sub-disciplinary field is a form of intellectual history, and an awareness that ‘theory’ does challenge many traditional professional assumptions. ‘Advance’ has implied the development of specialist historical knowledge within the discipline. Thus the question of how the discipline as a whole might evolve, has no champion. Attention is focused more on locating and then developing particular threads and topics within the styles and genres of historical writing and argument. Those styles and genres do evolve, but their evolution results from the evolution of the cultural community in which they function, rather than from an intellectual response to a moving research edge. Even further from the attention of either the discipline or the academy is the question of how the discipline might evolve as a mode of inquiry within the research community. Instead, disciplinary focus has been on the technical task, and on the role of academic history in the authentication of a particular type of cultural knowledge. The foundational assumption has always been that academic history research would work within a disciplinary boundary—it would be research in history that advanced ‘historical’ knowledge. The claim that it is more than that, as Droysen and Treitzske, or Clark and Dening, or theorists such as White and Ankersmit, for example, have suggested, has always either been treated sceptically or ignored.

Those arguments, however, remain arguments about the function of history in culture. There remains the question of history’s basic research function outside culture, and also the question of history’s function in the ‘development’ activity the academy undertakes on its basic research ‘discoveries’ in order for those discoveries to result in useful social products.  

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5 When research and development are discussed hereafter, the following terms will be used to discriminate between the different types of activity: ‘pure basic research’, ‘strategic basic research’, ‘applied research’, and ‘experimental development’. The terms comply with those used by the OECD and Australian Bureau of Statistics for classifying R&D (and as defined initially in the ‘Frascati Manual’—the experts met at the Villa Falcioneri in Frascati, Italy, in June 1963). ‘Innovation’ is a category connected to, but separate from, R&D and is classified in accordance with the OECD ‘Oslo Manual’. See OECD, The Measurement of Scientific and Technological Activities; Proposed Standard
Mainstream academic history, particularly in Britain and Australia (and North America), has been very aware of the theoretical discussion concerning the nature of historical knowledge and the function of historical narrative but, distrusting theory, has left participation in that discussion to the small sub-set of historians, philosophers and social theorists to whom it appeared to be of interest. Mainstream historians tended simply to concentrate on the practice of writing an orthodox history which matched the expectations of its particular interpretative community. The result in Britain, according to (a young) Gareth Stedman Jones (writing in 1967), was that ‘the progress of British historiography in the last 100 years provides a spectacular case of arrested intellectual development, and conceptual poverty’. Michael Bentley, in 2003, was more generous:

the profession largely ignored [the theorists] *et hoc genus omne* and forged a common-sense notion of truth and factuality out of a daily engagement with historical sources … History expanded its sense of itself as a disciplinary practice rather than a style of meditation.6

Earlier, in the 1980s, Dominick LaCapra had voiced his deep frustration with his fellow “practicing” historians’ method of ‘operating primarily’ according, he said, to ‘archival fetishism; a reliance on tacit, craft-like procedures; and a marked resistance to theory’. He wanted to ‘wake historians from their dogmatic slumber’ and have them ‘respond creatively to newer challenges in contemporary thought’.7 Nevertheless, Stephen Bann noted that ‘few

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6 Michael Bentley, *Modernizing England's Past*, 209–210. This glosses over, somewhat, the influence of Marxist theory on some British history after World War One, and the intense arguments in the 1960s–1980s between Marxist and non-Marxist historians, and between marxisant historians and intellectuals such as E. P. Thompson (and Stedman Jones), Perry Anderson and others—often through the *New Left Review*.

practicing historians are incommode[d] … by the lack of a philosophic base’. But he did feel that ‘historians should be thinking more carefully about their area of study’. Patrick Joyce noted that his own article in *Past and Present* in 1998 was ‘the first contribution on postmodernism and history to be published [in that journal] since the single exchange on the subject in 1991–2’.

Regardless of the ‘common-sense notion of truth and factuality’ which the profession may have had, it could not ignore the general turn from an analytical–philosophical understanding of historical fact and truth, to the linguistic–philosophical understanding which occurred through the 1970s and beyond. Language could not be ‘looked-through’ to the empirically verifiable explanation underneath. History was linguistically constructed meaning. Nevertheless, even if the historian’s works were constructions of the past rather than reconstructions, their purpose was still to provide new knowledge about a shared reality, and that construction still required the collection of ‘facts’; archives still needed searching, actual documents still required verification and validation, objects still needed to be sighted. The change, though, was that the accumulation of facts which Bury, York Powell and Acton saw as the way a universal history was to be realised, has now become simply the means by which the discipline finds conceptual answers to present-centred hermeneutical questions.

Nevertheless, the question of what ultimate research purpose or cultural purpose those answers serve remains open. It cannot only be increased awareness of the historically constructed nature of cultural and social consciousness. Raised awareness must have some purpose. If it is (as from time to time one sees it said) ‘to enable us to know better who we are’, then postmodernist scepticism of grand explanatory narratives, and now biological anthropology and genetic engineering, has meant not only that identifying what ‘we’ means is problematical but also that historical-consciousness-within-culture is itself the object of research. Research always stands ‘outside’ the research object. If history’s purpose is, as

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10 The philosophically problematical nature of this statement is understood and will be discussed.
Dening, Clark, and Crawford decided, an enriched living-in-the-world, then its basic research status is problematical. History as basic research must be other than training in cultural and social sensitivity. As research ‘outside’ culture, it must be part of a larger, more holistic, epistemological and ontological exploration.

II

The question, however, of what is valid ‘knowledge’, or how new knowledge differs from simply more knowledge is not easily answered. Nor is the related question of how ‘advancing’ knowledge differs from ‘extending’ knowledge. ‘Discovery’ can be as much seeing existing facts in new ways—and thereby producing new understanding, hence new knowledge—as discovering new relations and new phenomena. Intellectual advance has often been made in that former way, as the influence of Burckhardt and Collingwood (discussed below) has shown.

In Britain in the nineteenth century, once history had been established as an academic discipline, intellectual attention turned toward specialization within the discipline’s institutional frame, rather than interrogation of either that discipline’s ideological and theoretical assumptions or its intellectual focus—a pattern that was replicated in Australia in spirit if not in scale.11 The opening up of new lateral fields such as social history, imperial history, and economic history, for example, and each with its own journals, societies and practitioners, tended to deflect attention from the question of the exact nature and purpose of historical understanding to that of developing the new institutional specialties. By contrast, the research philosophy which Fichte, Schleiermacher and Humboldt had defined for the University of Berlin—the acquisition of deeper ontological understanding through epistemological discovery (to culminate in some incompletely understood fusion of subject with object in absolute understanding)—produced in historians the conviction that authentic history was below the surface of the historical. That authentic history was accessed through later.  

11 Australia followed in most areas, though the development of a history of Australia was not a subordinate part of colonial history, but an independent response to a local need.
historical research, but the search for deeper understanding meant the research focus was on ways of *seeing* and the mechanics of signification, rather than simply the excavation and exposition of a broader range of historical information. Burckhardt’s work demonstrated, as Niebuhr’s had done, that disciplinary advance was achieved through making that disciplinary study intellectually richer and deeper, rather than simply broader.

Burckhardt’s exploration of past cultural self-perception and expression as the vehicle for deeper present epistemological understanding, both expanded and deepened academic history’s understanding of itself as a mode of intellectual inquiry. The underlying spirit of open intellectual inquiry which pervades his research has meant that it still has a freshness which enables it to be read today as a work whose intrinsic value is intellectual rather than as archaic historiography—the fate of much other nineteenth-century specialist history. It is not the facts he presents that have continuing value, but the new perspectives his use of those facts reveals.\(^{12}\) Burckhardt used architecture, sculpture and painting as Ranke used documentary sources, but not as an art historian, rather, as a ‘searcher’ who wished to understand more deeply and for whom the fine-arts and the built environment were means to that end. In *The Civilization of the Renaissance in Italy*, he explored the ways that mystery, allegory and symbolism were used to make the Renaissance society’s past familiar to that society’s members; and in so doing illuminated for the reader the living ‘whole’, not the parts alone. For Burckhardt, visual and ideal values were inseparable in whole culture. He showed how culture, politics, and religion were an active whole, but, he famously argued, it was in the Renaissance that for the first time ‘both sides of human consciousness’—the objective and subjective—joined to produce ‘a spiritual *individual* [italics in original]’\(^{13}\).

Burckhardt did not so much discover new historical ‘facts’ as introduce new ways of ‘seeing’ previously known facts; and in so doing deepened understanding, thus advanced

\(^{12}\) He was conscious of the personal imprint on selection and interpretation. ‘This work bears the title of an essay in the strictest sense of the word’ he wrote, ‘the same studies which have served for this work might easily, in other hands, not only receive a wholly different treatment and application, but lead also to essentially different conclusions.’ Jacob Burckhardt, *The Civilization of the Renaissance in Italy* (London: Penguin Books, 1990), 19.

\(^{13}\) Ibid., 98.
rather than broadened knowledge. Burckhardt created a new dimension to *Kulturgeschichte* not because he sought to add to specialist art-history, but as a *consequence* of his desire to *understand* more *deeply*. *Kulturgeschichte* was the *means* to epistemological and ontological inquiry. But his was not traditional history. On publication, *The Civilization of the Renaissance in Italy* was criticized for its limited use of official documents and for its reliance on literary sources. However, with his approach to history as a mode of inquiry and with his emphasis on signification, Burckhardt’s practice connects directly to postmodern intellectual inquiry. He was modern in ways that, say, Stubbs or Freeman, and many of their English contemporaries, were not. By emphasizing historical research as a mode of intellectual inquiry, Burckhardt was effectively identifying the history specialist’s function in the larger quest for more integrated knowledge.

Burckhardt had shown how culture shapes both the organization of the senses and the ideas that emerge from that shaping, and how in turn those ideas shape culture. With his introduction of imaginative beholding as a research means to understand *Geist* and *Kultur* more profoundly, he had advanced the research boundary. It was from that new edge that Heinrich Wölfflin, Burckhardt’s pupil, produced his classic study (*Kunstgeschichtliche Grundbegriffe* (1932)). Introducing that work, Wölfflin wrote

> It goes without saying that the mode of imaginative beholding is no outward thing, but is also of decisive importance for the content of the imagination, and so far the history of these concepts also belongs to the history of the mind … The course of development of imaginative beholding is, to use an expression of Leibniz, “virtually” given, but in the actuality of history as lived, it is interrupted, checked, refracted in all kinds of ways. The present book therefore is not intended to give an extract of art history; it merely attempts to set up standards by which the historical transformations (and national types) can be more exactly defined.\(^{15}\)

In his study, Wölfflin drew attention to the change of emphasis from form, as in

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classical art, to movement, as in sixteenth-century art. The significance, he argued, was that: ‘The idea of reality has changed as much as the idea of beauty.’¹⁶ Consequently, he argued, one could see that ‘national differences of the eye … contain the bases of the whole world picture of a people’. Therefore, he concluded, ‘That is why the history of art as the doctrines of modes of vision can claim to be, not only a mere super in the company of historical disciplines, but as necessary as sight itself’."¹⁷

To understand human history was to understand that in human action reason, imagination, sense, and emotion, operated simultaneously, not separately. Human experience was both Geist and Natur, and both irrational and rational. Understanding human experience could not come from narrow rationality alone.

Collingwood also, unarguably, extended epistemological limits. For him, as for Burckhardt, history was a mode of inquiry. To understand history was to understand human action and to understand human action was to understand the historical. Action was history and history was past action.¹⁸ Historical inquiry was epistemological, and it was ontological. Collingwood understood also, as Burckhardt had, that for any meaningful understanding of human action, the full range of human experience had to be studied. ‘The only philosophy that can be of real use to anybody’, he wrote, ‘is a critical review of the chief forms of human experience’.¹⁹ Art, religion, science, history, and philosophy were, for him, the basic experiential categories, but, he concluded, ‘there are no autonomous and mutually exclusive forms of experience, and, what is more, it is in no one’s interest to assume that there are’.²⁰ Collingwood studied fairy-tales, folk-tales, and magic and applied ‘philological, functional, and psychological’ methods to determine their significance. The Romantic revolt against ‘naturalistic positivism’ was of particular interest. He described (in ‘Aesthetic theory and artistic practice’ (1931)) how Thomas Hardy had ‘turned his back on naturalism and

¹⁶ Wölfflin, Principles of Art History, 229.
¹⁷ Wölfflin, Principles of Art History, 237.
²⁰ Ibid., 306.
conceived life as a drama whose actors are spiritual forces working within the mind of man’. He saw in Hardy’s work that the spiritual forces were the main ‘facts’ of life. The artist constructed in his imagination an object whose purpose was to be significant or expressive—‘an intuition and therefore an expression’, Collingwood wrote. Consequently, physical objects were no longer needed as the ‘fixed point’ round which the work of art would ‘crystallize out’. Past facts were as much intuitions as they were the ‘residue of naturalism’. He was not concluding, as Dening would, that positive realism was the ‘ultimate forgery’, but he was arguing that the imagination was as substantial as reason in the drama of social reality.

Collingwood, like Burckhardt, had concluded that any meaningful experience is the matter of historical reality. Expression and experience outside language were as important to human understanding as articulated, rationalized, experience. With meaning, how one feels about an experience is more important than the actuality of the experience. The heart determines meaning in ways that the head cannot. Roger Fry, writing at the same time as Collingwood, commented that the critical distinction between science and art was that poetry, music, or painting was ‘the only means by which human beings can communicate to each other the quality and quiddity of their experiences’. Science summed up experience in a statement of fact: ‘The solution turned blue!’ But science, he said, was ‘not interested in the feeling tone which the sensation of blue gave’.

Thus, music, too, as a mode of imaginative beholding can determine the content of the imagination and contribute to shared cultural understanding. Music is expression which is simultaneously visceral and intellectual; how one hears can enable one to ‘see’ differently. Music can extend meaning. Karlheinz Stockhausen’s exploration in the mid twentieth-century of the fundamental and distinctive acoustical and psychological aspects of sound profoundly challenged accepted criteria for musical form, and has since profoundly altered

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notions of what constitutes legitimate musical form and genre—of what ‘music’ is or can be. The idea that a musical work need not be conceptually harmonious creates awareness of the complicated relationship between notions of musical autonomy and historically determined social convention. It also creates awareness that the subversion or extension of convention can provide new understanding. A musical work can operate ‘musically’ as notes, as phrases, or as an entity; but also, as Adorno observed, as a work which can have the appearance of being self-sufficient and harmonious and yet be a profoundly non-harmonizing social ‘cipher’—as Richard Wagner’s music can be, for example.

Unarguably, art or literature can open up new possibilities for perception, thus possibilities for new understanding, and those possibilities are multiplied when genre is extended or subverted, rather than faithfully reproduced. The perception of ‘newness’ of Chardin’s still-lifes, or Joyce’s novels, or Stockhausen’s music—actuated by their location outside contemporary expectation—has the effect of expanding contemporary knowledge by extending the frame in which understanding operates. ‘Modernism’ like Romanticism was a new, affective, perceptual frame for shared understanding. The new perception becomes the new historical reality in the way Wölfflin described. Which is why John Toews, when seeking to explain Ranke’s ‘conception of human existence as essentially historical’, was led into his ‘broader synchronic examination’ of the architecture of Schinkel, the musical compositions of Mendelssohn, and the linguistic–ethnographic studies of Jacob Grimm, in order to understand the ways in which Ranke addressed questions of historical self-consciousness and historical identity. Architecture, ethno-cultural identity, and music, Toews showed, critically affected those conceptions.

But there is a ‘double hermeneutic’ operating here. To identify perceptions of

‘newness’ in historical agents’ perceptions is to ‘discover’ new evidence from which new contemporary knowledge can be derived. But the ‘new’ evidence is new only because of a new research perceptual frame, not because new historical raw data (‘residues of naturalism’) have been discovered. For example, in the foreword to his *The Europeans in Australia*, Alan Atkinson explained that his history was a history of common imagination in Australia, and by ‘common’ I mean both ordinary and shared. It is an attempt to describe the day-to-day intellectual notions associated with life as an Australian among Australians, one of the conquerors of a new world, the denizen of a certain space, a subject and a social being.26

The new environment induced new perceptions and, hence, new realities for the denizens of that certain space. The new ‘ordinary and shared’ intellectual notions defined a distinctively Australian ‘subject and being’ for whom European notions shared previously, assumed new shared meaning. ‘Affect-imbued ideas’27 were folded back into culture. In Australia, natural environment was, ultimately, the strongest cultural element. In this work of Atkinson, the research was new, and that new research produced a ‘new’ history, but Atkinson’s ‘discovery’ was a new beholding, rather than new archival material that changed previously held views. Clearly, discovery can be made of new primary material, but as has been long recognized, perception of something as something, precedes understanding (historians needed to understand that ‘it is less important to discover new materials than to see the meaning of old’, Tawney said).28 New understanding, thus new knowledge, presupposes new perception and not simply new material.29

The issue that arises is that if, as research, history’s primary contribution were to be the opening of new perceptual possibilities within culture, or the raising of cultural, aesthetic, or

29 This statement will be discussed next section.
moral sensitivity, then it becomes indistinguishable from the other ‘arts’. Not only is its 
distinctive basic research function then lost, but it risks having its test of relevance become 
the effectiveness of its public engagement. Conversely, if the opening of new perceptual 
possibilities within culture is a valid basic research function, then the creative and performing 
arts are integral to any basic research.

III

If history were an ‘art’ directed to public engagement, then it can be strongly argued that 
literary fiction, poetry, drama, or film are more effective vehicles for negotiating life’s subtler 
reality—for seeing things as they really are and for being able to exercise moral imagination 
and moral choice effectively. Lionel Trilling has argued that ‘the most effective agent of the 
moral imagination has been the novel of the last two hundred years’. For Trilling, the novel’s 
‘greatness and practical usefulness’ lay in the way that it involved the reader ‘in the moral 
life, inviting him to put his own motives under examination, suggesting that reality is not as 
his conventional education has led him to see it’.30 Literature has always been concerned 
with lived reality:

All literature tends to be concerned with the question of reality—I mean quite simply the old opposition between reality and appearance, between what really is and what merely seems. ‘Don’t you see?’ is the question we 
want to shout at Oedipus as he stands before us and before fate in the pride 
of his rationalism.31

Recently, the acclaimed British novelist Zadie Smith reflected that she has concluded that 
the novel—writing a novel, reading a novel—is an ethical enterprise, a 
practice place for morals where we watch, in safety, people choosing what 
they must do, and what they lose when they choose wrongly; that is the 
closest possible rehearsal for the real thing, which is the most important 
thing of all.32

30 Lionel Trilling: The Liberal Imagination: Essays on Literature and Society (New York: The 
Viking Press; 1951), 222.
31 Trilling: The Liberal Imagination, 207
32 Quoted in Age Review (Melbourne), 17 September 2005, 3, from article by Aida Edermarim, 
Guardian.
Film, as argued earlier, also can claim strong credentials as an effective cultural agent for the exploration of the ethical and existential complexity of ‘life’. History, of course, can also claim that function, but that function, as with those other media (poetry, prose, film, etc.), is performed through a ‘developed’ product that has been fashioned for public consumption. That function has many capable potential providers outside the academy, and it is at the opposite end of the research-development-production spectrum to basic research. The question of history’s basic research function remains.

For Manning Clark, that question was irrelevant; history was wholly a public product. For him, history’s true mission was assuaging spiritual hunger and enabling people to see new possibility by removing the blinkers of the past. ‘It is the task of the historian and the myth-maker’, he said, ‘to tell the story of how the world came to be as it is’; and it was also ‘the story of what might be’. If this were so, then history and the literary and creative arts become complementary in the task of cultural enrichment and renewal. Through play, a function of the literary and creative arts, myth’s meaning can be extended and possibilities explored, and the historian, as historian, by showing how the myth came to be, removes the ground for its necessity and thus ‘warrants’ the legitimacy of these new possibilities. How the past is experienced and understood through historical representation and signification does play a significant role in enabling people to acquire a sense of the existential choices open to them. The historical work can play a significant role in indicating modes of historical change and future possibility. The historian can shape, with the artist, the form of these possibilities.

But again, in this role ‘history’ is a developed public-domain product which functions as a vehicle for shared communal understanding. In that role it is not a mode of inquiry which functions ‘outside’ culture as a basic research tool, but is itself an object for research. The problem is that history has both functions, and both are required in the academy, but only one is a basic research function. Alan Atkinson’s new research-based ‘history of Australia’,

as a history of Australia, is a text within culture whose primary purpose is richer cultural understanding; it is not a basic research document whose primary purpose is the advance of epistemological and ontological knowledge. That is not to deny that it is a legitimate, socially valuable, academic product: it is only to argue that the location of the academic product in the basic-research to developed-product spectrum determines the type of knowledge it creates.

The basic research project has a different purpose to the pedagogic or cultural project. Basic research seeks Boeckh and Schleiermacher’s ‘knowledge of knowledge’.

Myth (as explanatory narrative or dynamic model), imaginative beholding, and shared understanding are as central to epistemological and ontological inquiry as analytical philosophy and empiricism. Thus, intrinsically, Atkinson’s work could be part of a basic research program. Knowledge is more than objective reality. Since the ontological speculation of Spinoza and Descartes in the seventeenth century, and the epistemological critique of Kant in the late eighteenth century, inquiry has developed an increasingly ironic stance towards subject-centred reason and its desire to find secure grounding in an objective reality. The philosophical discourse of modernity which emerged now accepts as foundational the mutually constitutive relation between reason and the historical moment.34 It accepts that we are both products and producers of history and that epistemic structures are as much historically constituted as they are rationally constructed. That philosophical discourse recognizes that myth and imaginative beholding are as important to historical understanding as reason, and that advances in epistemological and ontological understanding cannot be achieved without historical understanding.

Hans Blumenberg goes further and argues that all those elements are interdependent. He argues that reason requires the harmonization of the rational with the irrational, and that myth and rationality are complementary, not mutually hostile as ‘enlightened’ thought has insisted. Not only are they complementary, but rationality is destructive ‘when it fails to

34 The discourse has no real start or end, but here is meant that discourse exemplified by such thinkers as Hegel, Marx, Nietzsche, Weber, Heidegger, Adorno, Foucault, Habermas, Lyotard, Luhmann, Jonas, Blumenberg, for example.
recognize the rationality of accepting things for which no rational foundation is given’. It is not a question of rationality inevitably dissolving enchantment; both enchantment and rationality are needed for mankind to face what Blumenberg calls ‘the absolutism of reality’. Mankind can never master the absolutism of reality through reason, thus will always feel insecure (in T. S. Eliot’s words: ‘The backward look behind the assurance/Of recorded history, the backward half-look/Over the shoulder, towards the primitive terror’). Myth enables a particular ‘mastering of reality’ that ‘rational self-assertion’ alone cannot provide and without which human life would be impossible. He argues that myths such as Prometheus, Faust, and Oedipus are so powerful and pregnant with meaning because of the long process of cultural selection and refinement which they have undergone. Because they portray the human predicament so holistically and indelibly, they are essential ontological keys that are maintained and honed through time. ‘History’, Blumenberg concludes, ‘whatever else it may be, is also a process of optimization’.

Regardless of whatever cultural or pedagogical function it might have, history has a distinctive role to play in academic basic research. That research, by virtue of being ‘academic’, is research into that ‘absolutism of reality’ which Blumenberg identified; it is research at the edge of epistemological and ontological understanding. But, since the infiltration of theory and the theoretical discourse of modernity and postmodernity into almost all academic discourse, historicism (in its genealogical sense) and historical consciousness have become entrenched in nearly all humanities, arts, and social science disciplines (as, to a lesser extent, has the Continental form of philosophy). Thus, the history discipline does need to be clear on its particular and necessary role within the basic research

38 Blumenberg, Work on Myth, 165.
program if it is not to become fragmented and then subsumed within more intellectually innovative and coherent research ‘branches’.

The discipline’s role in the basic research program requires it to stand ‘outside’ culture and operate not as a liberal, humanist, cultural narrative, but as a mode of inquiry working at the epistemological research edge. In this role its function is specialist inquiry whose field is the past and mutation, whose subject is meaning, and whose method is interpretation—all warranted by specialist expertise in historicity and historical consciousness gained through deep familiarity with specific historical ‘specimens’.

In this form, its output becomes part of, but integral to, the basic research program, since any epistemic ‘advance’ requires historical understanding—as does any agreement on what ‘advance’ means.

The question, though, of what ‘advance’ means with regards to knowledge, remains problematical. In research, ‘discovery’ implies the bringing to awareness of new knowledge, but the distinction between new knowledge and simply more knowledge is not clearly defined. Nor is it obvious how what may count as ‘valid’ new knowledge, is legitimized. In our current ‘age’ of science, legitimacy usually requires the imprimatur of scientific method; but, as discussed, knowledge is more than evidence-based reality.

Knowledge and Reason

In Western society from around the sixteenth-century, science has been increasingly influential in the elucidation and justification of the concept of ‘valid’ new knowledge. The modern understanding of research, based as it is on Western scientific practice regarding method, evidence and objectivity, accepts that, when properly practised, science will deliver ‘true’ knowledge. Thus knowledge obtained through belief, revelation, or intuition is not considered valid knowledge in the sense of objective knowledge. Nevertheless, as Thomas Kuhn observed,

39 By ‘specific’ is meant particular time, place, or theme subjects.
Myths can be produced by the same sorts of methods and held for the same sorts of reasons that now lead to scientific knowledge … Observation and experience can and must drastically restrict the range of admissible belief, else there would be no science. But they cannot alone determine a particular body of such belief. An apparently arbitrary element, compounded of personal and historical accident, is always a formative ingredient of the beliefs espoused by a given scientific community at a given time.40

How we know, and how we determine the categories by which we legitimize knowledge—identify ‘admissible belief’—are not, themselves, ‘scientific’. In science, the role of intuition in forming fruitful scientific hypotheses is accepted. Scientists acknowledge that induction is central to scientific thought, and accept that it is a complex mix of methodological practices and beliefs.41

The scientist and Nobel laureate, Peter Medawar, describes the inductive process as ‘a rapid reciprocation between … imaginative conjecture and critical evaluation’.42 It is a process, he claims, which is based on two central premises:

(a) Observation is the generative act in scientific discovery. For all its aberrations, the evidence of the senses is essentially to be relied upon …

(b) Discovery and justification make one act of reasoning, not two. Inductive logic embodies both a rite of discovery and a ritual of proof. Scientific inference can always be made logically explicit, in retrospect if not at the time it was actually carried out.43

42 Ibid., 44
43 Ibid., 42. The debate regarding the place of induction in scientific method and the acquisition of ‘true’ knowledge is, of course, a long one. For example, Leibniz’s criticisms of Kepler’s laws, then Hume, Kant, the prolonged debate between William Whewell and John Stuart Mill (see E. W. Strong, “William Whewell and John Stuart Mill: Their Controversy about Scientific Knowledge”, *Journal of the History of Ideas*, 16, no. 2. (Apr., 1955), 209–231), and Paul Duhem. In the twentieth-century, the Vienna Circle debated extensively the foundations of positivism and sought to secure its foundations, but by the 1930s the separation of the context of justification from the context of discovery became problematical, and by the 1950s, became insupportable. The work of Kuhn and W. V. Quine, in particular, dissolved the distinction. (The influential Quine-Duhem thesis, for example, argues that empirical evidence cannot force the revision of a theory, since there are innumerable possible explanatory hypotheses and evidence cannot guide choice between rival theories or hypotheses). For a detailed historical and critical account of the positivist debates see John H. Zammito, *A Nice
Thus, significance in data can be seen through imaginative beholding, and seeing is believing. The scientist either ‘notices’ significance, or looks for it, but in each instance significance is measured against a pre-conceived template. Bruno Latour and Steve Woolgar’s famous sociological study of a neuroendocrinology research laboratory at the Salk Institute showed that a typical experiment produces only inconclusive data and that a large part of scientific training involves learning how to make the subjective decision of what data to keep and what data to throw out. Consequently, the decision to retain data that contradicts scientific orthodoxy cannot be one made through purely scientific reasoning: it also involves an intuitive feel for the soundness of particular currently held beliefs. Underlying that intuition is a conscious or unconscious awareness of the genealogy of current understanding: of how and why those beliefs are held—thus why change may be required, why new reasons may be stronger than old reasons. Despite the crisis of positivism during the 1950s and after, precipitated in part by Kuhn and Quine’s arguments in the philosophy and sociology of knowledge (reflected in Latour and Woolgar’s study), the efficacy of empirical inquiry could not be denied, even if there appeared to be no sound theoretical basis for it. It seemed ultimately to matter little to genuine scientific advance in what order belief and beholding occurred.

Just as to see can be to believe, so to believe can be to see. Brian Levack noted in a study of witchcraft and the law in Early Modern Europe how a person’s religious creed affected what they saw. Calvinists, Lutherans, and Catholics, witnessed different manifestations of demonic possession and witchcraft. One can believe even if seeing by proxy. Charles Zika noted the way in the sixteenth-century pastors and theologians, through their ability to interpret the illusions and invisible deeds of the devil, established themselves as ‘arbiters of the seen and the unseen, of what are true and false worlds, true and false

To ‘see’ required specialist expertise. Thus, belief and experience are both adjusted until their paired meaning reconciles with the individual’s intuited ontological and teleological framework. Reason modifies that framework, but can never establish it—reason cannot explain why there should be reason. It can only be through intuition that the individual identifies the ‘self’ as ‘subject’ ‘experiencing’ the experience, and locates that self within a larger absolute ‘reality’ (Kant’s transcendental subject perceiving the ontological difference between self and ‘other’—or Heidegger’s Sein and Dasein). The larger reality determines the meaning, and hence the validity, a particular belief will have. The human being is simply ‘the place of meaning’ in which aestheticism (metaphor, metonymy, visual representation) and perception are as fundamental to meaning constitution as empirical rationality. Intuitive epistemological and ontological apprehension is prior to decisions regarding the external world. Consequently, final determination of the validity of particular truth and knowledge claims is through ontological intuition.

Paul Feyerabend noted in a series of lectures in 1966 that ‘the development of church dogma shares many features with the development of scientific thought’, and later argued that empiricism shared certain problematic features with Protestantism. Feyerabend’s notorious (or celebrated) attacks on scientific positivism were based on his view, from experience with scientists and philosophers of science, that there is no such thing as the scientific method. To Feyerabend, great scientists are ‘epistemological anarchists’—methodological opportunists who use any approach they think of, even if they thereby violate canons of empiricist methodology. But his argument that the scientific outlook is itself just one approach to

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47 Leonard Krieger observed that: ‘what constitutes the grounds of credibility for … historians … have changed from community to community and especially from period to period … the credibility of historians has entailed what was noteworthy of belief as well as what was entitled to belief.’ Leonard Krieger, Time’s Reasons: Philosophies of History Old and New (Chicago: The University of Chicago Press, 1989), x.


49 See, for example, Paul Feyerabend, Against Method (London: Verso, 1975). At this time Feyerabend’s purpose was not to dismiss empiricism but to argue for a ‘theoretical pluralism’—theory competition—where individual theories would be rigorously tested against alternatives, hence their empirical content enhanced. It was later that his views became more extreme and he was branded as an
making sense of the world—that it is not self-evidently superior in all respects to other approaches—could not refute the fact that science ‘worked’ impressively and seemed superior to alternatives for predicting natural phenomena. Science’s concern was with new, unselfconscious, understanding derived from the validation or modification of a theory, not with its epistemology, ontology, or the constitutive nature of language. ‘I can rejoice even in the falsification of a cherished theory’, declared the neurophysiologist (Sir) John Eccles, ‘because even this is a scientific success’.50

Science does not seek, as a result of new understanding, to modify the epistemological and ontological framework within which the new knowledge was derived. It assumes a positivist ontology and an empiricist epistemology and takes for granted the legitimacy of both its ontological assumptions and its self-authorization of the validity of its own knowledge. Science is unconcerned also with language theory: thus science’s propositions or theories can be tested for their explanatory truth value by other assertions and derivations and can be re-described in other ‘primitive’ propositions which explain function or functional purpose within this ontologically bounded and epistemologically defined domain.51

Physicists’ arguments on the creation of the universe do not question the existence of the universe—thus they do not question epistemologically and ontologically the referential statement that the universe exists—they only question the form of that universe and the effectiveness of existing laws to enable them to explore that form. They accept that their knowledge may be wrong because the existing laws and models may be inadequate and that there may be discovered laws which overturn accepted notions of how the universe is to be explained. For science, it is not what is believed which is of central importance, but how it has come to be believed.52 Predictive power and verifiability are the criteria by which entrenched cultural relativist.

51 The terms, but not the statement, used here in relation to science’s logic are from Karl R. Popper, Conjectures and Refutations, 19.
52 Stephen Toulmin emphasizes the point that it is not what is believed, but how belief can change. ‘Questions of “rationality” are concerned, precisely, not with the particular intellectual doctrines that a man—or professional group adopts at any given time, but rather with the conditions on which, and the manner in which, he is prepared to criticize and change those doctrines as time goes on.
scientific belief is validated.

The philosophical soundness of science’s epistemological assumptions is of interest to science, but peripheral as long as advances are being made.\(^{53}\) Philosophical enigmas such as continuity and infinity are of interest, but are not problematic regarding ‘advancing’ scientific knowledge. Mathematics has always specified its own ‘absolutes’—‘infinity’, ‘a point’, ‘a singularity’—unconcerned that they are purely artificial constructs necessary for practical ends, but which are beyond conception. Although it is unclear how mathematics is possible, why it works, advance in mathematics is unhindered. Rational meaning in mathematical systems is irrelevant: for example, spatial intuition has no relevance to the truth of particular geometries, as Henri Poincaré explained:

> What, then, are we to think of the question: Is Euclidean geometry true? It has no meaning … One geometry cannot be more true than another; it can only be more convenient … whichever way we look at it, it is impossible to discover in geometric empiricism a rational meaning.\(^{54}\)

Carnap, extending Poincaré’s observation to mathematical logic itself, concluded that it was irrelevant whether the system or calculus’s foundation was logicist, formalist, or intuitivist. It was convenience not correctness, he concluded, which was relevant.\(^{55}\) No system was more ‘correct’ than any other. Once the impediment of striving after correctness was overcome, then, Carnap declared, ‘before us lies the boundless ocean of unlimited possibilities’.\(^{56}\) Gödel’s incompleteness theorem—from his proof that the distinction between logical and physical rules can only be drawn within a meta-language that transcends the mathematical

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\(^{53}\) Ernst Mach, in a lecture in 1895 commented: ‘most scientists today adhere to a materialist philosophy of 150 years’ standing, whose inadequacy has long since been recognised not only by professional philosophers but by any laymen not too cut off from philosophic thought.’ Ernst Mach, *Knowledge and Error: Sketches on the Psychology of Enquiry*, trans. Thomas J. McCormack (Dordrecht: D. Reidel Publishing Company, 1976), 3.


rules being used—did not induce mathematical paralysis but acted as a spur to further research using the rules.

For science, reality does not have to be conceivable. Superstring theory, which was developed towards the end of the twentieth century, works in a space-time manifold of ten dimensions and with vibrating ‘strings’ which are postulated to be the universe’s fundamental building blocks. The strings are calculated to be one hundred-billionth of one hundred-billionth of one hundred-billionth of one centimetre long \(10^{-33}\) cm. Science is confident that it can model an inconceivable reality; and that it can continue to refine the model regardless of the fact that the model indicates an increasingly inconceivable reality. Science’s interest is in the physical implications of these ontological discoveries—it is not in the ontological implications of those ontological discoveries. Their inquiry is secured by a distinctive faith regarding the cosmos and reason: the cosmos does not have to correspond to sensible experience, or reason, but understanding the cosmos can be advanced through the logic of reason and sensible experience in the form of experiment. There is not the unknowable, only the unknown. They have faith that incrementally more and more can be known of that knowable whole, and they make truth and knowledge claims without hesitation or doubt regarding either the transparency of language or the value of those claims. In science, theory follows practice. Science, as practice, does not stop or go round in circles because of difficulties with theory; certainly not poststructuralist and postmodernist theory. Incommensurability, the ‘indeterminacy of translation’, and the ‘indeterminancy of interpretation’ are not problems in practice. Scientific understanding accumulates.

Ironically, it was for the humanities and human sciences that theory—the critical and cultural theory that emerged from the combination of post-Kantian metaphysics, the philosophy of language, and the sociology of knowledge—proved disabling to the belief in unified, objective, knowledge. In those disciplines there developed a ‘rhetoric of impossibility’ towards the ‘advance’ or accumulation of knowledge. Concerned, as they

were, with understanding and meaning (in the *Geisteswissenschaften* sense), any meaningful communication depended on the determinancy of language, translation, and interpretation.

As Kant had famously observed: ‘Concepts without empirical intuition (observation) are empty phrases; empirical intuitions without concepts are blind’. The search by the logical positivists (starting with the scientists and philosophers of the Vienna Circle and ending with the language philosophers of Oxford) to define exactly what types of phrases are empty, and what are not, led them away from logical positivism and, eventually, to Wittgenstein’s ‘rule following’. However, Wittgensteinian ‘rules’, far from being abstract standards by which language could represent reality, were simply the practical conventions of learned intersubjective behaviour. The criteria for soundness was meaning, not the ability to point to an objective reality, even if the pointing and the reality were accepted. By the end of the twentieth century, *Geisteswissenschaften* ‘theory’ had produced ‘a derangement of epistemes’ which seemed ‘to disavow the very core of common sense’. Theory had become so reflexive that it had, in John Zammito’s words, ‘plunged “all the way down” into the abîme of an almost absolute scepticism … Hypberbolic “theory” threatens especially the prospect of learning anything from others that we did not already presume’. Earlier, Murray Krieger, reflecting on his long experience as a literary theorist in the American academy, observed:

We were made aware of both critical and theoretical circularity in our arguments … the reading of the work is determined by the criticism, which is determined by the theory, rather than the other way around. And theory is itself determined by sociopolitical ideology. Thus, questions that turn out to be highly ideological will reveal in advance what, as interpreters, we have been seeking to find; and—lo and behold!—there it is.

Nevertheless, there is general acceptance of ‘theory’s’ point that neither experience nor

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59 The phrase is John Zammito’s, the clause is Willard Quine’s and quoted by Zammito. Zammito, *A Nice Derangement of Epistemes*, 275.
60 Ibid., 275.
observation is neutral. Empirical data cannot be free from theoretical frameworks, nor can language be assumed to be univocal or transparent. ‘Scientific’ and ‘unscientific’ beholding cannot be separated. Culture and science change together. Consequently, discourse which critiques culture and science within culture, is neither monolithic nor totalizing; it is altered as much by science as it alters science—which it does through the constitution of the objects and problems which science investigates. In the academy, research in the humanities and social sciences, concerned as it is with epistemology, subjectivity, causality and historical consciousness, cannot ignore research in neurophysiology and psychology (or physics and mathematics) if it is genuinely to be research at the edge of understanding. If the historian’s concern is with past subjectivities and experience mediated through individual consciousness, then clearly it is affected by new understanding in those scientific domains. Conversely, the assumptions behind scientific inquiry need to be probed continuously; the issue of how, culturally, objects for investigation are constituted and understood is not something science can answer. Knowledge boundaries and disciplinary means have never been, are not now, nor will be, either impervious or static.

II

The issue remains, though, that central to the idea of research is the notion of discovery—the bringing to awareness of new knowledge. The implication here is that new knowledge leads to new understanding. But that distorts the true relation between knowledge and understanding since there can be no comprehension that knowledge is new unless it has changed or confirmed existing understanding. In this sense, new knowledge is a product of new understanding. New understanding warrants knowledge as new. Therefore, central to the notion of research as discovery is the perception in the researcher, and then the wider interpretative community, of new understanding.

The attempt, however, to understand the process whereby existing belief—the subject’s epistemological ‘steady-state’ condition—is changed to a new steady state, to new belief, has

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been the very essence of philosophical inquiry since, at least, Descartes. Increasingly during the seventeenth century and after, the importance of physiological and anthropological considerations in any inquiry into the nature and limits of understanding was accepted. In the twenty-first century, inquiry into the nature and limits of human understanding involves neurophysiology and psychology as much as it does philosophy. But it also involves mathematical research and research in computer science and artificial intelligence. Research in those domains into the way information is extracted from ‘noise’, and how information is processed in ‘learning’ systems, forms an integral part of the philosophical discussion, and provides useful insight into the question of how belief can be changed.

In natural science it has been established that, physically, it is only changes to a steady-state that can be sensed—the ‘state’ of the equilibrium state itself cannot be sensed. In the physical world, data only becomes new data, rather than steady-state ‘background’ data, if it provides new information. And it is only either difference between incoming data and ‘background’ data, or change to the nature of the incoming data, which classifies otherwise unremarkable data as new data, thus, the carrier of new information. With living organisms, visual, aural, olfactory, or tactile data that do not differ from their background are unnoticed; with humans, noise, odour, or force, for example, that stays unchanging quickly ceases to register in consciousness. Thus new information is produced either through spatial (synchronic) difference, or temporal (diachronic) difference. Therefore, arguing by analogy, in the higher levels of human cognition it is understanding which is the meta-frame—the Archimedean point—by which information is judged either to be new or not new. The information is either of value, and thus changes or reinforces understanding, or else superfluous, thus has no affect. This processed information is stored as new knowledge if the result of cognitive processing is new understanding. Like data in the physical world, information in the cognitive world only leads to new understanding if there is either comparative difference or temporal difference. In the context of humanities disciplinary inquiry: difference is identified through either comparative or historical analysis. Most

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63 For example, Alan Turing’s mathematical studies on machine intelligence and John Searle’s arguments concerning intentionality and artificial intelligence.
information, like most data, is superfluous. However, whereas superfluous data is filtered out unconsciously at the physiological level, superfluous information requires conscious cognitive processing before erasure (forgetting) or relegation as more information (to a particular location in memory).64

There remains a critical difference between physiological data and intellectual knowledge. Knowledge is data transformed cognitively to two orders higher in abstraction. First, data must be placed within context to provide information—and only when data is placed in a particular context does it provide information. However, the same data in a different context will produce different information. Thus information is data that has been transformed or ‘differentiated’ in relation to some selected base parameter (just as in mathematical calculus where velocity, for example, is the first differential of distance if distance is differentiated with respect to time). Then, for information to be transformed into knowledge, it must be placed in a higher, but particular, context. The same information placed in a different higher context will produce different knowledge. Knowledge is information that has been transformed through differentiation against a selected higher-order parameter—the equivalent of the mathematical double-differential (for example, acceleration which is distance differentiated twice with respect to time: distance to velocity, velocity to acceleration). In the human world, first-order context is a category or domain—such as the physical, temporal, subjective, social, political, or cultural fields. Second-order context, however, is the conceptual or ‘theoretical’ frame in its explanatory form (current cognitive ‘stance’ prior to possible modification as a consequence of the ‘second-differential’).

In this sense, theory is simply second-order reflection; an instinctive process whereby knowledge is processed. Hans-Georg Gadamer describes ‘modern theory’ as ‘a tool of construction by means of which we gather experiences together in a unified way and make it

64 Walter Pater identifies the experience of difference in sensation (‘the moment … of delicious recoil’), not sensation itself, as the key to aestheticism and the aesthetic life, and how ‘the flood of external objects’ is reduced to groups of impression by the ‘thick wall of personality’. Walter Pater, The Renaissance: Studies in Art and Poetry, The 1893 Text, ed. Donald L. Hill (Berkeley: The University of California Press, 1980), 186, 187.
possible to dominate them’. 65 Herbert Simon has described a theory as: ‘if not a theory, at least a point of view that has been proving fruitful over a wide range of applications’. 66 The theoretical frame may be a restricted form suited to particular domain knowledge (geology, say), or it may be a totalizing form, for example, historical materialism, or Christianity. Thus, for example, Clifford Geertz’s ‘thick description’ would, as cultural anthropological critique, be second-order output in Geertz’s ‘life-world’, and the ‘thick’ object of his description would be second-order output in the life-world of the people whose conceptual frame he had analysed. If this reasoning is accepted, then one must conclude that cultural knowledge is a product of cultural theory.

For the history discipline, the epistemological process could be said to be not the ordering of historical facts into a coherent narrative, but the transformation of past facts (data) into historical facts (information), and then historical facts into interpreted historical facts (history as knowledge). Marc Gaboriau’s argument that ‘biographical and anecdotal history … is low-powered history, which is not intelligible in itself and only becomes so when it is transferred en bloc to form a history of a higher power than itself’, recapitulates this proposition.67 However, the resulting ‘higher power’ knowledge is only relevant to a particular referential understanding. Accordingly, there is a wide range of domains of interest and conceptual frames. Postmodernist privileging of linguistic and rhetorical codes over ‘grand narratives’ represents a clash of theoretical perspectives, and one where the primacy of synchronic (spatial) understanding over temporal (diachronic) understanding is championed. Significantly, however, postmodernist argument, as the name conveys, locates itself historically and relies on historical understanding to argue its case; it doesn’t claim directly that temporal difference is irrelevant, only that there is no way other than through language and cultural or social rhetoric to produce knowledge from that difference.

Nevertheless, historical consciousness grounds postmodernist argument, as it does any

synthetic argument. Human understanding is unavoidably historically conditioned, since, at the most basic level (if the evidence of neurological science is accepted), the mind is moulded through learning which is embodied through the temporal conditioning of the neural network. Since knowledge of phenomena that are independent of the knowing subject can be verified (and it is only things independent of the knowing subject which can), there is confidence, epistemologically, that external stimuli—external actualities—play an essential role in the neural conditioning. Further, it is sequence detected within otherwise asynchronous phenomena that is significant. However, any consciousness of the temporal ‘spacing’ of neural stimuli is merely primitive consciousness of time-based phenomena: it is not historical consciousness in the sense of a higher consciousness derived from historical knowledge. ‘Experience’ is consequently of two forms: simple—remembering sequences of apparently linked time-based physical phenomena (simple causality as a function of past, present, future action), and complex—social and cultural ‘lessons’ learned from higher-order experience as mediated through historical consciousness. Reinhart Koselleck argues that history can only be a ‘science of experience’:

There is no history which could be constructed independently of the experience and expectations of active human agents … the categories “experience” and “expectation” … claim an indispensable application. Here they resemble, as historical categories, those of time and space.

Thus, complex understanding implies historical consciousness—in Georg Lukács’ words: ‘When the problem of connecting isolated phenomena has become a problem of categories, by the same dialectical process every problem of categories becomes transformed

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68 The following discussion acknowledges that the intersection of cognitive science and the philosophy of memory is a very active and extensive specialist study, and one which has a long history in philosophy and neuroscience. For example, see David G. Stern, “Models of Memory: Wittgenstein and Cognitive Science”, Philosophical Psychology, 4, Issue 2 (1991): 203–218.

69 F. R. Ankersmit has recently argued for wider recognition of the primary nature of historical experience (‘sublime’ historical experience is his expression). He wants theory and its mediating function removed from historical cognition so that intuition, experience, and historical consciousness connect directly. Ultimately, he argues, sublime experience can erase the difference between past and present and in creating that felt unity enable us to discover ‘something that has been inscribed in our minds a long time ago already.’ Frank Ankersmit, Sublime Historical Experience (Stanford: Stanford University Press, 2005), 188.

Pierre Duhem observed that ‘To give the history of a physical principle is at the same time to make a logical analysis of it’. Ernst Mach declared that there was ‘only one way to (scientific) enlightenment: Historical studies!’ The implication of Lukács, Duhem and Mach’s statements is that changes in conceptual categories are what history is. Isolated facts in isolated categories are objects ‘in’ consciousness, but not objects in historical consciousness. Judgement requires historical consciousness. Hence if ‘judgement provides the bridge between understanding and reason’ (as Gadamer, summarizing Kant, concluded), then historical consciousness is central to any sophisticated use of reason.

Historical consciousness is not, therefore, awareness of physical time, but conceptualization arising from perceived difference. For Koselleck, the two fundamental ‘anthropological givens’ are experience and expectation and it is the tension between these which, ‘in ever-changing patterns, brings about new resolutions and through this generates historical time’. Further, the ‘higher order’ recollection of historical time can be quite independent of the way in which event sequences were burnt into the neural network, as Proust, in particular, has communicated so powerfully. In recollection we can ‘fold’ the ribbon of time so that ‘nearness’ is not related to temporal distance along the ribbon but to contiguity which, in the folding, aligns memory with relevance. Thus, contemporaneity and anachronism are more complex notions than elapsed time, as are those of duration and ‘flow’. Our cognitive experience of time—time as ordered in our higher inner-sense—is of the folded form, not the linear version. Michel Serres describes it as

\[A\] kind of crumpling, a multiple, foldable diversity … this intuition is clearer than one that imposes a constant distance between moving objects, and it explains more. Everyone is amazed that after 1935 the Nazis, in the most scientifically and culturally advanced country, adopted the most

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74 Koselleck, *Futures Past*, 275.
archaic behavior. But we are always simultaneously making gestures that are archaic, modern, and futuristic.\textsuperscript{75}

For many people in the twenty-first century there remains, coexistent with the belief in science, a belief in transubstantiation; for others, including several U.S. senators, there remains a belief in satanic powers.\textsuperscript{76}

It is the time-based nature of both simple and complex experience, and awareness of the contingent nature of both types of experience, that ground any second-order reflection concerned with meaning and understanding—including postmodernist discourse, despite that discourse’s questioning of the primacy or legitimacy of any particular ordering schemes resulting from second-order reflection. Neither experience nor discourse can belie the fact that the physiological, psychological, and cognitive processes are inseparable, and that theoretical and historical conceptualization are interdependent. No theoretical discourse can be without an intellectual genealogy, and history as knowledge—doubly transformed past facts—must be grounded in theory. The transformation of selected historical facts into interpreted historical facts can only occur within a selected or assumed (conscious or unconscious) theoretical frame.\textsuperscript{77}

III

There has long been awareness, at least since Aristotle and the Stoics, that more than intellect is involved in human understanding; that the human being as creator of meanings is more than a hierarchy of discrete faculties with reason at the top. We need to ‘plow with another heifer than our reason’, Hamann observed.\textsuperscript{78} For Ernst Cassirer symbolic understanding, not reason,


\textsuperscript{76} Anne Summers, “Hillary’s presidential remake leaves the Clinton heartland cold”, Age (Melbourne), 14 January 2006.


was the common denominator of all human thought, imagination and experience,\(^79\) and for rational thought itself, Hans-Georg Gadamer’s view was that the ‘supersensible substrate’ was an active element in judgement.\(^80\) Understanding forms first in that substrate—as T. S. Eliot observed with his comment that ‘genuine poetry can communicate before it is understood’.\(^81\) Life’s deeper meanings do not require discourse for their understanding. Seamus Heaney spoke recently in an interview of the need for poetry to have ‘some sort of covenant with the irrational’. ‘The reason I like the last poem’, he said, ‘[is because] it’s kind of a different stage of life. You’re beginning to be aware of the underground journey a bit more’.\(^82\)

From the last decades of the twentieth century, increasing research attention has been paid to emotions and their role in cognitive processes. Emotions are being seen as an integral part of the evaluative response to objects whereby the concerns, interests, and well-being of the subject are harmonized. In this role emotion is a form of beholding which enables the subject to ‘see’ objects in complex ways (it has been defined by others as ‘serious concern-based construal’,\(^83\) and ‘rich and dense perceptions’\(^84\)). The response of fear or anger toward an object is a complex response which can be understood only as an integration of physiological, psychological, and rational/cultural processes. In that integrated process, difference is transformed into ‘otherness’, which is classified as hostile, suspicious, or marginal, for example.\(^85\) Reflection and judgement are neither purely culturally constructed nor materially determined. For William Connolly, the inseparability of the

\(^{79}\) Cassirer, while an active member of the Vienna Circle, had published his three-volume *Philosophy of Symbolic Forms* from 1923–1929; by 1930 the book was already being recognized as a seminal publication in the philosophy of culture. Quine had described his time in Warsaw and Prague in 1932 (with members of the Vienna Circle) as ‘the intellectually most rewarding months I have known’. Quoted in Alex Orenstein, ‘Quine, Willard Van Orman (1908–2000)’, in *The Shorter Routledge Encyclopedia of Philosophy*, ed. Edward Craig (Abington: Routledge, 2005), 869


\(^{82}\) Quoted in Sam Leith, “Back on home turf”, *Age* (Melbourne), A2 Supplement, 27 May 2006. Reprinted from the *Daily Telegraph*.


‘body/brain/culture network’ means that ‘the classical distinction of kind between culture and nature becomes translated into interacting layers of biocultural complexity’. He argues:

By attending to the body/brain/culture network we multiply the circuits of intercomposition to be studied. We are thereby encouraged to study how cultural disciplines help to shape the organization of the senses, how those experiences provide materials from which second order ideas are formed, how those affect-imbued ideas in turn fold back onto culture, and so on ad infinitum. You thereby come to see how important it is to engage the multimedia complexes of today in which image, sound, words, and rhythm mix together, becoming infused into cultural sensibilities and political orientations.

Connolly is therefore identifying the need for integrated research. Research output must satisfy both the specialist particular and the integrated whole. His interest (he is a political theorist) is in the implications of the integrated whole to the nature and scope of democratic politics and the normative grounds of judgement and action. His ultimate interest is in enlarging the political imagination so that as a society we respond more ‘generously’ and creatively to democratic possibilities, so that we rethink, within our new global contexts, the ethos by which we enact liberal democratic structures and norms. As research in its broadest sense, Connolly’s interest is in the practical application of basic research. In other words, he is interested in the ‘experimental development’ of social products.

It can be seen that the question of how norms are formed, and how mechanistic physiological models connect to whole person notions of intentionality, autonomy, and ethical action, remain basic research tasks. The perennial basic research question of the relation between structure and agency remains, though now science is no longer irrelevant to that earlier, essentially philosophical, discussion. Science may now enable that ‘circle of timeless confrontation’ (as Claude Lévi-Strauss described it), over the primacy of either

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structure or agency, to be avoided.

Traditional inquiry was never able to resolve the problem of autonomy—of how agency could be reconciled with Wittgenstein’s rule-following. Bourdieu’s ‘rules of the game’ and ‘habitus’, by which he meant embodied understanding of how to act, was one theory which gestured towards today’s more integrated biocultural approaches. Habitus structured the rules of the game, the rules by which one acted, not the action itself. Habitus was a form of cultural preconscious which structured meaning. However, Bourdieu was never able to convince sceptics that habitus avoided the problem of reductive mechanism and causality. His problem was that the question was still considered to be, at its core, philosophical. But his motivation had been, he said, to try and find an alternative to the

Fictitious alternative between a subjectivism which persists in attempting to find the place of pure origin of a creative action which cannot be reduced to structural determinisms, and an objectivist pan-structuralism which hopes to generate structures directly by a sort of theoretical parthenogenesis.

Today, with the insights gained from the new biocultural research, we can see that the real issue is not one of primacy of structure or agency, since they are—like physiology, psychology, and culture—indivisible and operate within, and as part of, that integrated biocultural whole.

By treating culture and nature as interacting layers of biocultural complexity, the basic research task becomes one of investigating the ‘circuits of intercomposition’. A ‘structure’ in this model is a higher-order system of differentiation (in effect, a system of transformation) which allows individual and intersubjective meaning to be produced from heterogeneous

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89 Wittgenstein’s rule, though, were social/cultural intuited understandings, not behavioural algorithms.


information and other-system knowledge (where there is meaning, there must be a system or structure since meaning can only be immanent and relational—there is no transcendental meaning). Agency is the subject’s complex reaction to that produced meaning, and reaction is the complex feedback mechanism whereby harmonization of the body/mind/culture ‘circuits of intercomposition’ is achieved. Thus meaning is generated through the relationship between structure and agency, and the agent’s second-order reaction to meaning adjusts structure. The second-order reaction is the confirmation or modification of ‘theory’. Thus, theoretical frames change meaning, but new meaning affects theory—the Gadamerian hermeneutical circularity— whereby we come to understand the whole from the parts and the parts from the whole.  

Similarly at the intersubjective level: because no two individual understandings are exactly the same, no two cultural contexts are exactly the same, and no two reactions are exactly the same, so intersubjective and cultural understanding are being constantly adjusted together and unpredictably. Thus prediction of behaviour as a research goal makes no sense in any study of this biocultural complexity. Possibility, not prediction, is the more appropriate goal.

By studying the circuits of intercomposition, rather than subjectivity or meaning-structures independently, a more holistic perspective can be gained on purposeful human action. For, clearly, although systems make things possible, they make nothing actual; the actual requires creative input for its coming to being. Joyce’s *Ulysses* cannot be explained as a product of a system; but neither can it be explained as the product of an isolated individual talent. Nor can political reactions to sociopolitical problems be so explained. The basic research task becomes one of exploring the interaction of agency and structure—thus how systems first come into being and, second, change (change which in turn generates new systems that make new meaning possible, and so on). But by investigating the conditions intrinsic to structural and creative change, basic research’s actual research objects are the processes of self-fashioning, not transcendent truth or absolute reality.

92 In William Bouwsma’s words ‘the creative interpretation of experience also shapes experience’; William J. Bouwsma, “From History of Ideas to History of Meaning”, 283. And to which could be added Anthony Giddens’s ‘double hermeneutic’: the agent being interpreted reacts to the interpretation of the interpreting agent (who is aware of that reaction).
Nevertheless, basic research still remains ‘open’ and at the epistemological and ontological edge ‘prior’ to any specific subjective or cultural self-fashioning. Basic research evolves—if for no other reason than that science remains intrinsic to basic research and is a major force of change both to research’s objects and to the research community’s own physical/psychological/cultural self-fashioning. History, as the specialist study of cultural mutation (in effect the study of the mutation of meaning), remains fundamental to any basic research. Why certain meanings arise, persist, and collapse at particular times and in specific sociocultural situations is the very matter of academic history.\(^93\)

### Research and Purpose

The quality of ‘openness’ in basic research, while essential, is not sufficient to satisfy the basic research ethos; that ethos, inflected as it is towards natural science, implies also a sense of direction. Openness could simply lead to an endless hermeneutical circularity, whereas progress implies advance, through discovery, towards some *objectively* meaningful awareness. Again, this does not mean that the object is the attainment of *transcendent* understanding—the fate of Fichte, Schelling and Hegel’s Absolute Idealism warns against that—but merely to observe that ‘discovery’ implies a continual moving beyond current boundaries. Hence the discovery of new knowledge implies moving beyond current boundaries of understanding. Inquiry can never be free from cultural assumptions, for cultural background can never be entirely transcended, but that does not mean that current boundaries cannot be transcended at all. Michel Foucault, reflecting on humanistic inquiry, concluded that all that inquiry *could* be was an experiment in exceeding current boundaries:

> The critical ontology of ourselves has to be considered not, certainly, as a theory, a doctrine, nor even as a permanent body of knowledge that is accumulating; it has to be conceived as an attitude, an ethos, a philosophical

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\(^93\) The main clause in this sentence is John Toews’, but he was referring to intellectual history and drawing a distinction between it and radical hermeneutics. See John E. Toews, “Intellectual History after the Linguistic Turn: The Autonomy of Meaning and the Irreducibility of Experience”, *American Historical Review*, 92, no. 4 (Oct., 1987): 882
life in which the critique of what we are is at one and the same time the historical analysis of the limits that are imposed on us and an experiment with the possibility of going beyond them.\footnote{Michel Foucault, “What is Enlightenment?” in The Foucault Reader, ed. Paul Rabinow (New York: Pantheon Books, 1984), 50.}

Could humanistic inquiry then be simply a process of self-fashioning—in Francesco Varela’s words: a ‘pragmatics of transformation’ in the manner of the Eastern wisdom traditions such as Confucianism, Taoism, and Buddhism?\footnote{The expression was used in a public lecture where Varela argued for ‘re-enchantment of wisdom, understood as non-intentional action’. For Varela, ethics is closer to wisdom than to reason. Francisco J. Varela, Ethical Know-How: Action, Wisdom, and Cognition (Stanford: Stanford University Press, 1999), 3–4.} Perhaps, but only if that inquiry could be reconciled with the notion of advance. But for the humanities and arts research communities, what advance means (in the common Western sense of advance) in relation to going beyond current understanding, is problematical. What is the referent against which advance is measured? What constitutes valid ‘advancing’ knowledge? In science, advance is recognized as improvement to the efficacy of models and techniques that explain, predict, or calculate the performance of empirically verifiable phenomena. But in humanities and arts research, prediction is an incompatible criterion. Such research can be scholarship whose purpose is the bringing to awareness of existing knowledge, of things long known—of what has been thought and said. Scholarship connects to human wisdom and understanding in culture, of ways of being in the world. Lucien Febvre, reflecting on history and critical method in humanistic inquiry, considered history to be part of ‘the great endeavour, transcending history and unifying all the disciplines, of man’s knowing how to think and how to live’.\footnote{The words are Krieger’s: Leonard Krieger, Time’s Reasons, 149 (ref. Lucien Febvre, Combats pour l’histoire (Paris: 1953), 24, 30–33, 55–60).} How to be is the focus here.

If, given the finiteness of life, meaning in life was determined to be the purpose of reflection, then since meaning is relational and constructed, rather than discovered, discovery might seem to have little relevance to research in the humanities. Geisteswissenschaften knowledge would change but there would be no apparent independent parameter against which ‘advance’ could be measured—or the notion of ‘advance’ made meaningful. By this
reasoning, ‘advance’ in the humanities and arts equates more to recontextualisation than refinement and accumulation.  

Richard Rorty, like Foucault, has long argued for the abandonment of any notion of advance towards any objectively meaningful awareness (in the sense of progress towards awareness of a mind-independent reality). For Rorty, the role of humanistic inquiry is simply to ‘continue the conversation which constitutes our culture’:

If we see knowing not as having an essence, to be described by scientists or philosophers, but rather as a right, by current standards, to believe, then we are well on our way to seeing conversation [italics in original] as the ultimate context within which knowledge is to be understood. Our focus shifts from the relation between human beings and the objects of their inquiry to the relation between alternative standards of justification, and from there to the actual changes in those standards which make up intellectual history.  

In sum, therefore, conversation and the right to believe, combined with an understanding of the sociocultural conditions that make belief and shared meaning, and thus justification, possible. Rorty’s advocacy was for cultural self-fashioning through an engagement with possibility. Thus the long journey to absolute knowledge finds its end in the cultural community where it began. In an interview eighteen years later, Rorty remarked that knowledge was not a matter of ‘getting reality right’, but was a practical matter of learning how to cope with the world. Instead of talking about ‘truth’, he said, we should talk about how well our ideas suit our purposes. ‘There are no neutral standards’, he argues.

If you want to convince people of leftist values, you tell them stories about the sufferings of the poor, women, gays and the colonised—all the usual stories. If that doesn’t work, then giving them a philosophical theory is not going to work either.  

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The many arguments by critics against what they saw as his empty relativism left him unmoved. For Rorty, there is no alternative to accepting that essentialism is outmoded. Intellectual life should be pursued ‘without much reference to the traditional distinctions between cognitive and noncognitive, between “truth” and “comfort”, or between the propositional and the nonpropositional’. By so doing we can start ‘thinking of the entire culture, from physics to poetry, as a single, continuous, seamless activity in which the divisions are merely institutional and pedagogical’.  

In a similar pragmatic vein, Voltaire had concluded that true knowledge concerned the practical matter of learning how to cope with the world. At the end of Candide, Martin, the character who speaks for Voltaire, concluded that life’s secret was to cultivate one’s own garden and to work without arguing. ‘That is the only way to make life bearable’, Martin declares. It is timeless wisdom. In his 1996 Boyer Lectures, the Belgian–Australian scholar Pierre Ryckmans used that precept of Voltaire’s to support his argument for the need to cultivate the gardens of our minds, to ‘come home’ after life’s long journey ‘into a discovery of the inner self’. In other words, to discover that understanding beyond instrumental rationality was needed for us to ‘see’ the true human reality. Culture, Ryckmans claimed, was the means through which we realised the ‘fullness of our humanity’. Seeing the deeper reality of life was ultimately an act of faith. ‘The saying’, Ryckmans said, ‘“to see is to believe” must be reversed: to believe is to see [italics in original]’.

These are conclusions reached by eminent researchers after a lifetime of research. They are their research findings to the question: Why know? But the question of the nature of academic basic research remains. If ultimately it is wisdom regarding how to act which is the proper object of knowledge, then current notions of research, tied as they are to notions of


102 Pierre Ryckmans, The View From the Bridge: Aspects of Culture (Sydney: ABC Books, 1996). The Boyer Lectures are annual lectures commissioned by the Australian Broadcasting Commission.

103 Ryckmans, The View From the Bridge, vii–viii.

104 Ibid., 9.
open-ended inquiry and the accumulation of ethically-neutral knowledge, appear to be flawed. This is particularly the case if the instrumental result of that knowledge is not able to be identified. If wisdom were to be considered the desired outcome of knowledge, then the relevance of newness and progress in relation to knowledge and research, is obscure. But alternatively, if the purpose of humanistic inquiry were to be the attainment of a certain state of mind through discovery of the inner self, then ‘research’ becomes something quite different—transcendental meditation, perhaps. Humanistic knowledge, though, is only one part of the whole knowledge spectrum. Scientific knowledge is the other part. Whatever form or direction humanistic inquiry might legitimately take, ultimately it must be reconcilable with scientific knowledge. Both forms of knowledge are integral parts of a larger epistemological whole, they are not mutually exclusive forms.

In order to maintain a clear research direction and purpose, a strong distinction needs to be maintained between the two ends of the ‘research’ spectrum: at one end, basic research—unbounded exploration seeking to move beyond the current edge of understanding—and at the other, development—the process of transforming new understanding to ‘valuable’ social ends. It is a process continuum, like Rorty’s epistemological continuum; the parts are meaningless without the whole, but they are distinct parts. In the humanities, for whom the individual and society is both the research object and the end user of that research, it is particularly difficult not to conflate the different processes, as Ryckmans, Rorty, and Voltaire have done. For governments, which clearly have the responsibility and authority to specify the purpose of government-funded research, the question: ‘What is research for?’ is a question that should be directed to development, not to basic research. The public value of basic research cannot be judged directly: judgement can only be made of the value of the end product—the developed product—of that basic research.

The problem is that the whole range of intellectual activity, from introspective discovery to social application of conceptual discovery, is termed ‘research’. The failure to differentiate between such a complex spectrum of activity means that effective management of that activity is confused. The mistake governments make is to attempt to direct the
research itself, not the development based on research. Basic research, by definition, cannot be directed, it has no *intrinsic* purpose. The principal drive to acquire knowledge of the unknown and the inconceivable is visceral—physical and psychological—not rational in the sense of ‘reasonable’ or ‘purposeful’. Its motivation is satisfaction of the intuitive desire to know. It is a physiological response to the ‘impulse of curiosity’.\textsuperscript{105} That is its engine. For the funding institution, however, the purpose of the open search for new understanding is the assumption that the results of that search can be instrumental in the achievement of some ‘valuable’ institutional, national, or international objective. As time and resources are never unlimited, the research and development *program* at the institutional level will be directed,\textsuperscript{106} and its elements prioritized. The notion, however, of directed *basic* research is oxymoronic. Basic research is ‘open’ thinking which seeks to go beyond current epistemic limits in any part of the epistemological continuum. Introspection is as ‘functional’ as experimentation in this task.

II

There are, however, clear and obvious limits to inward-directed research. As Michel Serres has observed,

Solitude slides so quickly toward inventive delirium and error that the site of knowledge production is never a relation between an individual and his object, but rather one between a growing body of researchers checking on one another and a carved out specialty, defined and accepted by them.\textsuperscript{107}

Research as funded activity must enable knowledge to be derived from it that is both transferable and verifiable. Similarly, that derived transferable knowledge must have value to more than the individual researcher. The knowledge must have relevance to ‘normal’ human contexts, and for the individual researcher to maintain a sense of the ‘normal’, the researcher


\textsuperscript{106} Through the identification of ‘strategic basic research’, then ‘applied research’, then ‘experimental development’, etc. This will be discussed further in later chapters.

must acknowledge the collaborative research body of knowledge as the ultimate benchmark against which the value of the new knowledge is judged. How otherwise can the individual be sure that increased understanding through intense introspection or cerebration is not, in fact, the slippery slope to either the inventive delirium Serres identified, or even madness? Louis Sass has remarked:

A particular, though common, image of insanity … [is] one that views insanity as necessarily involving mental defect, regression, or some other kind of loss of mental clarity and capacity (a “darkening”). This is an unfortunate over-generalization. For there are, in fact, forms and phases of insanity that may involve not diminished but heightened forms of consciousness and even self-consciousness, not loss of logical capacity so much as an inability to temper and apply reason in accordance with the demands of practical contexts. The insanity of at least some types of schizoid and schizophrenic individuals … can involve disturbing forms of hyperawareness, and the propensity to let logic ride roughshod over common sense.108

Might, in fact, madness only be an impediment to the ‘downstream’ processes and not to basic research? Sass was discussing the case of the young nineteenth-century Viennese and Jewish philosopher Otto Weininger, and was using the case to explore issues of autonomy, self-consciousness, rational control, psychosis and culture. In Weininger, all these issues had come into catastrophic collision.

In 1903, in Vienna, Weininger had published an extraordinary book entitled Sex and Character: An Investigation of Principles.109 The book was a re-working of his Ph.D. dissertation for which the University of Vienna had awarded him his degree the year earlier. The dissertation was a philosophical investigation of the biological, psychological, and logical grounds of sex, sexuality, and character. The examiners, Friedrich Jodl and Laurenz Müllner, had commented on the dissertation’s denigration of women, and questioned its

109 Otto Weininger, Sex and Character (London: William Heinemann, 1906); [authorised translation of the sixth German edition]
metaphysical conclusions and its affinity with the worst of German idealistic psychology, but accepted the dissertation. It was an extraordinary thesis which was made more extreme in the book.110

Weininger had identified ideal-typical modes of being (characters) emerging from a duality of biological and ‘vital’ substances that were unevenly distributed across the entire spectrum of plant, animal, and human life.111 He determined that ‘masculinity’ represented ‘being’ and ‘femininity’ represented ‘non-being’, and by aligning this radical masculine/feminine polarization with a radical racial/cultural polarization of Aryan and Jewish types, Weininger advanced the thesis that women and Jews did not possess a rational and moral self and accordingly deserved neither equality with Aryan men and Christians nor even freedom. At one point he went further: ‘At this stage it may well be asked if women are really to be considered human beings at all, or if my theory does not unite them with plants and animals?’112 Earlier he had observed ‘A female genius is a contradiction in terms, for genius is simply intensified, perfectly developed, universally conscious maleness’.113 In Weininger’s final analysis, the ideal-typical woman was reduced to sexuality alone, and he argued that anyone who failed, or was unable, to pursue the higher, masculine, destiny of mankind, did not deserve to live. ‘Logic and ethics are fundamentally the same, they are not more than duty to oneself’, he wrote.114 Three months after the book was published he shot and killed himself; he was twenty-three years old.

*Sex and Character* itself came to be so widely read and discussed after Weininger’s suicide that twelve editions of it were published between 1903 and 1907. His posthumous reputation and writings became popular points of discussion in Viennese intellectual life. Herman Broch described Weininger as ‘the most passionate ethical thinker since Kant’.

112 Weininger, *Sex and Character*, 176.
113 Ibid., 115.
114 Ibid., 96.
Wittgenstein had written to G. E. Moore: ‘I can quite imagine that you don’t admire W very much … It is true that he is fantastic, but he is great and fantastic … the greatness lies in that with which we disagree. It is his enormous mistake which is great’.\textsuperscript{115} John Toews has described the phenomenon as ‘one of those literary events that bring apparently disparate cultural trends into striking focus, that gather the inchoate anxieties and obsessions of an age (or its literate, self-styled spokespersons) into provocative, synthesizing outline’.\textsuperscript{116} Despite wide debate on what Weininger’s story meant—was it just a case of psychosis, or was it emblematic of modernist anxiety regarding consciousness and identity—there appeared to be agreement that Weininger’s suicide was the logical product, or, in Louis Sass’s words, ‘almost the corollary’, of the unyielding ethical principles Weininger presented.

In Weininger, it seems likely that narrow rationality and logic had over-ruled wisdom and common sense to the extent that the fine line between intense intellectualism and insanity had been crossed. But was Weininger ill? If so, and if, as Foucault has argued, there is as much a social locus as a medical one to the classification of madness, was then Weininger’s ‘illness’ more cultural than physical? Karl Krauss had described fin-de-siècle Vienna as a ‘research laboratory’ or ‘proving ground for world destruction’.\textsuperscript{117} That early modernist intellectual culture was self-reflexive, experimental, and transitional. In a review of Carl Schorske’s study \textit{Fin-de-Siècle Vienna: Politics and Culture}, Michael Roth observed:

There is no conclusion to \textit{Fin-de-Siècle Vienna}. With Kokoschka and Schoenberg, the journey from political to psychological became a new form of engagement; the \textit{voyage intérieur} became a struggle to express the truths of the instincts without the mediations required by society. Indeed, the modernist artists gazing inward gave up on society and its history as field from which meaning could be made.\textsuperscript{118}


\textsuperscript{116} Toews, “Refashioning the Masculine Subject”, 31.

\textsuperscript{117} Sass, “A Falling Star”, 4.

\textsuperscript{118} Michael S. Roth, “Performing History: Modernist Contextualisation in Carl Schorske’s \textit{Fin-de-Siècle Vienna}”, \textit{American Historical Review}, 99, no. 3 (Jun., 1994): 734.
Weininger demonstrated that the socially unmediated inward gaze was not without problems. Nevertheless, Vienna at that time was a centre for a stellar cast of intellectuals of every discipline, including Arnold Schoenberg, Adolf Loos, Karl Kraus, Ludwig Wittgenstein, Oskar Kokoschka, Sigmund Freud, Georg Trakl, Franz Kafka, Heimito Von Doderer, Hermann Broch, and Robert Musil. In such an environment, intellectual innovation and new ways of ‘seeing’ were bound to emerge. Wittgenstein judged Weininger’s views ‘fantastic’ rather than mad. Weininger’s publisher declared that ‘It may be noted with satisfaction that the book is by no means in harmony with contemporary thought’. Nor was Weininger insensitive to the ‘abnormality’ of his views. In the Preface he sought to explain that his interest was the ideal and concerned ‘meaning in the universe’, not the mundane and personal. Thus he sought, he said, to go ‘beyond simple and superficial phenomena’ but acknowledged that such explanation ‘cannot in the smallest way rehabilitate me in the minds of women’. He defended his work against accusations of unproven speculation by arguing that if one’s object was to look behind phenomena, then understanding ‘cannot arise … although every age expects it, as a synthesis of however great a sum of empirical knowledge’. ‘Proof’ in such investigations as his, he argued, ‘means no more than the agreement of new experience with old experience’; knowledge produced by experience and imagination—‘the creative hand of nature’—was as valid as that ‘produced experimentally by men’.

From the evidence, it is beyond debate that Weininger was highly intelligent, but that fact by itself provides little useful information. Weininger certainly makes problematical the nature of the relationship between intelligence, rationality, sanity and survival. But his case also makes clear that any attempt to make sense of it requires first an understanding of that complex intersection of cultural, social, intellectual and personal forces that was Weininger, his world, and his audience.

119 Toews, “Refashioning the Masculine Subject”, 31.
120 See footnote 115 above.
121 Weininger, Sex and Character, iii, v.
122 Ibid., v, vii.
Weininger also makes problematical the relationship between ‘pure’ inquiry and the form in which the results of that research are transmitted and used by a non-specialist public. Weininger understood that ‘pure’ inquiry required getting outside normative intellectual and cultural assumptions; new understanding required, as he said, to get ‘outside’ empirical knowledge. And as John Toews has commented, the Weininger ‘phenomenon’ had ‘an enormous impact all across Europe in setting the terms for the discussion of gender, sex, and race’. But Weininger’s scholarship makes clear that ‘meaning in the universe’ required greater epistemological balance than he demonstrated. Absent from his writing is any acknowledgement of the historically conditioned nature of philosophical and ethical argument on which his thesis rests. There is a superfluity of Kantian self-consciousness and Absolute Idealism, but no historical consciousness. The very ‘purity’ of his analysis demonstrated a lack of balance, thus understanding arising from it alone would be unbalanced. Understanding ultimately requires more integrated knowledge; and when that understanding is transmitted outside the research environment, some idea of the purpose that understanding will serve, is required.

III

If research is exploration at the epistemological and ontological edge, then Weininger’s thesis is very much within the boundaries of basic research. His might be research which falls at the early hurdles of either validation or specialist credibility, but it remains the output of a research specialist. What it does show definitely is that unbounded research, while remaining undirected and unbounded, needs to operate within a larger management frame that performs three necessary functions which unbounded research, by its nature, cannot perform. A process is needed to validate the research, judge the potential value of further research in the chosen specialist area, and identify the purpose which products developed from that research.

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will serve. In this larger frame, judgement of research value is made against assessments of research fecundity, not the research’s compliance to social or cultural norms. ‘Normality’ in the social sense is irrelevant within the basic research enclave; within research’s purview, normativity is an epiphenomenon to be inquired into like any other. However, outside the research domain and inside the development domain, notions of ‘normality’ are intrinsic to questions of value and purpose and decisions regarding the ‘riskiness’ of the research questions, and hence to decisions regarding the allocation of limited funding. In for-profit companies, the business model defines ‘normality’ through its mission statements and market definitions, but the owners of that model may adjust those statements and definitions if they judge that research has created new business opportunities. New markets are created often by new ‘abnormal’ products. Many companies deliberately strive for products that are revolutionary. For many, the competitive strategy is to produce unorthodox, socially innovative, products. But that judgement is made through instrumental reasoning concerning developed products, not from the impulse of curiosity.

For research in the academy, research which deliberately operates as much outside social or cultural norms as within them, and whose research transforms social consciousness and common understanding as much as it informs them, the need for a well defined, conceptually complex, and effective research management structure, is essential. Yet there is no such formalized structure in evidence. In Australia, neither Government nor universities have distinguished between research, development, ethical-political-requirements definition, and knowledge application in any way that enables unbounded and undirected research to exist comfortably within a socially responsible, economically sensible, and commercially efficient funding structure. Research into aspects of infant health competes equally (though through separate funding bodies) for support with research into notions of transcendence in Beowulf. Infant health researchers need not fear for their funding. And yet questions such as ‘What is knowledge?’, ‘What do we understand?’ and ‘What do we want knowledge for?’ remain just outside the edge of understanding—despite Government’s insistence that they know.
DOES HISTORY HAVE A FUTURE?

An Inquiry into History as Research

PART II: FUTURE
CHAPTER 4
INTEGRATED PURE INQUIRY

Being a humanist means that you try to behave as decently, as honourably, as you can without any expectation of rewards or punishments in an after-life. When we had a memorial service for Isaac [Asimov] a few years back, I spoke at it and said at one point, ‘Isaac is up in heaven now’. It was the funniest thing I could think to say to an audience of humanists. Believe me, it worked—I rolled them in the aisles. If I should ever die, God forbid, I hope people will say, ‘Kurt is up in heaven now’. That’s my favourite joke.

—Kurt Vonnegut Jr.¹

It is not the human, then, that is under interrogation but the “human”—the process that produces the name, and everything that has been done in that name … The “human” and its accompaniment, the ideology of “humanism”, are the metaphysical shields protecting us from an inclement environment. If we were to peer inside the epithelium of the “human,” what would we find there, hidden behind the metaphysics of subjectivity?

—Paul Sheehan: Becoming Human²

By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation … The cyborg incarnation is outside salvation history … In a sense, the cyborg has no origin story in the Western sense; a ‘final’ irony since the cyborg is also the awful apocalyptic telos of the West’s escalating dominations of abstract individuation, an ultimate self untied at last from all dependency, a man in space.

—Donna Haraway: ‘A Manifesto for Cyborgs’³

Inquiry’s Moving Edge

If the academy can be accused of failing to differentiate adequately between research and its application, then equally it can be defended by observing that not only are those entities not

easily separated, they also are interdependent and dynamic.\(^4\) The research ‘edge’ is continually moving, which means that the application boundary is continually moving also. Yesterday’s basic research is today’s experimental development and tomorrow’s new technology and new legislation. Thus the contents of both the research and application domains are inextricably affected by the historically contingent ‘space of experience’ and ‘horizon of expectation’ of the research community and the society of which that community is part.\(^5\) Michel Foucault, in his advocacy of a new ‘critical ontology of ourselves’ (a form of strategic basic research or applied research)\(^6\), acknowledged this historical contingency in his observation that ‘the critique of what we are is at one and the same time the historical analysis of the limits that are imposed on us and an experiment with the possibility of going beyond them’.\(^7\) Our notions of ourselves evolve and change in response to our times, and with that evolution the research subjects and the application areas change also. Basic research, no matter how epistemologically and ontologically ‘unbounded’ it may strive to be, is inevitably shaped by what society takes to be natural or self-evident, even if those understandings form the point of departure for basic research’s conceptual inquiry. Basic research is shaped by historical contingency even as its content is created from the free-play of curiosity and creative reason. Further, the nature of the academy’s relationship with government and society means that basic research, ultimately, must connect to the acquisition of ‘valuable’ socio-cultural products. The connection might be indirect and delayed, but there must be one—as clearly there is, since new technology, new perceptions, and new legislation are unavoidably shaped by the ideas and conceptual ‘paradigm shifts’ that emerge from research at the epistemological and ontological ‘frontier’.

The issue for the academy if it is to retain a distinctive and unique connection to the creation and transfer of knowledge is how to manage effectively the subtle differences

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\(^4\) Problems with classification and measurement of the various research and development categories is a central theme of the Frascati Manual.


\(^6\) These classifications will be discussed below.

\(^7\) Michel Foucault, “What is Enlightenment?” in *The Foucault Reader*, ed. Paul Rabinow (New York: Pantheon Books, 1984), 50
between the different activities that form the research, development, and innovation
continuum. At one end of that continuum is basic research which is motivated by the desire
simply to understand more deeply (‘pure’ inquiry): at the other is the transfer of valuable
ethical, political, cultural and technological products into the national or international ‘user’
community. One end is grounded in the continual probing of the foundations of
understanding regardless of where ethically or politically that inquiry might lead, the other is
grounded in the application of normative humanist understanding to pragmatic social ends.

The twenty-first century, however, presents new difficulties for our understanding of
what ‘humanist’ and ‘pragmatic social ends’ might mean. Bio-engineering and genetic
engineering raise questions on what in future ‘human’ and ‘intelligent’ might mean, and
environmental degradation and climate change raise questions on what in future ‘pragmatic’
and ‘intelligent action’ might mean. It seems that new conceptual frames are required if
society is to adapt successfully to the new global environment, and it is the university which
is best able to assist society make that intellectual transition.

II

For the humanities, for whom society is both the research object and the end user of its
products, it is particularly difficult not to conflate the research and development processes.
Since Kant’s response in 1784 to the question: ‘What is Enlightenment’ (which he concluded
was ‘the courage to use your own understanding’) the question of the nature of the ‘modern’
present and what an intelligent response to that present should entail has been at the centre of
humanities inquiry. By the end of the nineteenth century, attempts to answer the question of
what modernity (Enlightenment’s product) meant had become central to
Geisteswissenschaften and drawn further attention to the problems inherent in the separation
of scientific and humanistic studies. Max Weber took the question of how the modern world
came to think of itself as modern as the central research problem. For him, both agency
(autonomy, intentionality—*Geist*) and structure (mechanism, causality—*Natur*) were involved in the answer, and any answer would require their integration. His ‘ideal-types’ were the structure whereby the rational/irrational agent’s actions could be interpreted.  

Weber’s main motivation, however, was not inquiry as basic research, but the application of the knowledge gained to a better understanding of how to *live*. H. Stuart Hughes comments:

As his widow put it, he took it upon himself “to bear” without flinching “the *antinomies* [italics in original] of existence”—to live without illusions … When he was once asked what his learning meant to him, he answered quite simply: “I want to see how much I can endure”.  

By the latter decades of the twentieth century, and now in the twenty first century, the question of the nature of the present and what an *intelligent* response to that present should entail has been at the core of the ‘modern–postmodern’ debate—as Wayne Gabardi has observed:

It is in the philosophical and political tension between "modernity" (centered on the Enlightenment project of critical rationality and human emancipation) and "postmodernity" (with its radical cultural and epistemological critique of modernity) that our transitional time has been defined.  

The task is both to inquire into one’s time, and respond to it. Thus, no matter how basic the research, it is unavoidably part of the discourse of how to *act* in the present.

The reaction in the nineteenth century against ‘pure’ Hegelian and Fichtean inquiry resulted from the desire to reorient inquiry toward practical action.  

Feuerbach’s (and Hegel’s) philosophical Idealism was that it ‘[did] not grasp the significance

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11 What ‘intelligent’ might mean in the modern/postmodern world is discussed in a later Section.
13 John Toews has remarked, however, that: ‘the belief that the problem of transition from theory to practice first arose around 1840 and marked a new departure in the Hegelian tradition is clearly based on ignorance of earlier developments.’ John Edward Toews, *Hegelianism: The Path Toward Dialectical Humanism, 1805–1841* (Cambridge: Cambridge University Press, 1980), 3.
of “revolutionary”, of “practical–critical”, activity’—that ‘philosophers have only interpreted the world … the point is to change it’. The purpose of critical theory, which derived from Marxist (and Freudian) theory, was political and social action. The conceptual exploration of the implications of Marxist and Freudian theory by the ‘Frankfurt school’ of researchers was the means only to the desired end which was immanent critique. In 1937 Max Horkeimer had stressed the need to distinguish between traditional theory and critical theory; the former, he said, meant ‘the sum-total of propositions about a subject, the propositions being so linked with each other that a few are basic and the rest link with these’, the latter was ‘the unfolding of a single existential judgement’ that it need not be so; man can change reality. In this definition research and development (or theory and its experimental application) are one activity, but in his emphasis on human self-assertion, justified by his conviction that the dialectic of enlightenment was leading mankind into an abyss, Horkheimer was identifying the application of developed theory—development—as the main task.

Similarly, R. H. Tawney—as Professor of Economic History in the University of London (and adherent to Marxist and Weberian methods for social critique)—was insistent throughout his inaugural lecture that ‘research is a means, not an end’. For him, ‘research supplies the data’ and historians needed to understand that ‘it is less important to discover new materials than to see the meaning of old’. For too long, he said, historians ‘have preferred burrowing to climbing. They make a darkness and call it research’. But this last criticism was generated by what (in his words: ‘with certain conspicuous exceptions’) he saw as historians’ continual employment of ‘unanalysed concepts—nation, political power, property, progress, commercial supremacy, and a host of similar clichés—with an

14 Notes 1 and 11 of Karl Marx, Theses on Feuerbach.
15 This is not to imply that critical theory was a coherent body of thought possessing thematic unity. Members and associates of the ‘school’ were, intellectually, relatively independent. See Dieter Misgeld, [Review] Untitled, New German Critique, no. 41 (Spring–Summer, 1987): 178–186 (see 178–180), and Wayne Gabardi, [Review] Untitled, New German Critique, no. 41 (Spring–Summer, 1987): 166–178 (see 166, 167, 177, 178)
18 Ibid., 20, 13–14.
Earlier he had emphasized that ‘It is obvious that the historian must be interested in theory’, first, because of theory’s necessary hermeneutical function, and second, because ‘Theories have a history’. With these remarks, Tawney was articulating the timeless motivation for research—to understand—but for him the term ‘research’ described activity which was ancillary to the historian’s main task, specifically, the illumination of research materials through conceptual critique, and the practical application of that new knowledge. Tawney had a life-long belief in history as a human and humanizing discipline; thus the single object of research was socially useful understanding, not the ‘advance’ of knowledge for the purpose of advancing knowledge. In Tawney’s schema, discovery was a function of applied research. The application of historical research to social action was the point of history. Social action was the rationale for research. Basic research had no separate meaning.

If Tawney’s idea of history could be said to have fused a number of research and development processes, then the idea of history espoused by historians such as George Macaulay Trevelyan altogether occluded the notion of history research as epistemological or ontological inquiry. Trevelyan expressly wished to separate history from that ‘scientific’ ethos. For him, history and ‘science’ should be seen as separate domains. In his rebuttal of Bury’s view that history should be pursued in the spirit of science, Trevelyan had declared that ‘It is not man’s evolution but his attainment that is the great lesson of the past and the highest theme of history’. Trevelyan spoke as the historian-poet; he wrote of the ‘human spirit’. History should celebrate living. It should acknowledge the progressive betterment of society through the application of reason and the getting of civilization. And he was not without supporters, even among the more scientific cohort of historians. Herbert Butterfield, writing shortly before Trevelyan’s death, said that although Trevelyan ‘had not been the

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19 Ibid., 19.
20 Ibid., 14.
21 Ibid., 19.
Ch. 4: Integrated Pure Inquiry

greatest technician amongst our historians … I wonder whether he is not the one [historian] who most definitely bears the marks of greatness’. Butterfield referred to what he called Trevelyan’s ‘grandeur of the soul’ and continued:

From his combination of qualities—from the whole man—there comes a deep human wisdom which is his commentary on the story he narrates … few of his contemporaries achieved such moments of poetry … He belongs to an urbane world that is really Edwardian, and as a survival of that world he is beyond price.24

Deep human wisdom was not a product of scientific research. ‘Grandeur of soul’, not critical method, was the most valuable aid to the study of the human world.

But it was just that notion of reason and progress promoted by Trevelyan which thinkers such as Adorno and Horkeimer attacked (as Nietzsche had). For them the ‘humanist project’ was both fundamentally flawed and historically exhausted.25 Inquiry’s edge had moved on. Not only was the question of the ‘human condition’ problematic, so too was the question of the rational grounding of normative critique. Where was that Archimedean point from which any sense could be made of notions of reason and ‘progress’?

In the early clashes between modernists and postmodernists in the 1970s, the underlying issue was whether critical reconstruction or radical deconstruction was the more appropriate response to the ‘postmodern condition’. By the 1990s, the ‘second wave’ of this polemical encounter was concerned less with polarizing polemics and more with synthesis. In particular, the synthesis of critical rationality, ontological identity/difference, and political action.26 There was a need, Richard Bernstein felt, to advance what he called ‘non-foundational pragmatic humanism’. The question of how to navigate between ‘the Scylla of

25 In their introduction to Dialectic of Enlightenment (1944), Horkheimer and Adorno wrote: ‘It turned out, in fact, that we had set ourselves nothing less than the discovery of why mankind, instead of entering into a truly human condition, is sinking into a new kind of barbarism … we still trusted too much in the modern consciousness’. Max Horkheimer, Theodor W. Adorno, Dialectic of Enlightenment, trans. John Cumming (New York: Continuum Publishing Company, 1993), xi
26 Gabardi, “Review Essay”, 770. For example, Gabardi cites the approach taken by thinkers such as Fred Dallmayr, Jürgen Habermans, and Richard Berstein.
“groundless critique” and the Charybdis of rationally grounded critique that “rests” upon illusory foundations’ was ‘if not the central question—then at least a central question that is at the very heart of the “modern/postmodern” debates [italics in original]’. 27 The concern, therefore, was with how to better integrate the research, development, and innovation processes.

Today, with issues such as environmental degradation, global warming, genetic engineering, and biotechnology, inquiry’s edge has moved even more dramatically and the new focus has brought even more urgency to the need for the synthesis of praxis and action, and for the synthesis of scientific and humanistic inquiry. Now the question is not ‘the human condition’, but what ‘human condition’ means. Does the term ‘human nature’ still provide any useful information, or is it simply an ideological term from an outdated anthropocentric intellectual heritage? Current bioethical and environmental issues demand decisions by governments and society on how to act intelligently, but what ‘intelligent action’ means in the new bioethical and ‘biospherical’ world needs clarification. Explanation using only current notions of normativity, is not sufficient. The normative ‘space’ itself requires interrogation (and expansion).

III

In 2006, a leading Australian representative of technocracy and ‘free enterprise’ was presenting his version of the new reality to a select group. Don Argus, the chairman of the global resource company BHP-Billiton, was addressing a business investment forum, but was warning that economic measures of ‘value creation’ were too narrow, that society looked at much broader ideological indicators before it ‘rewarded’ companies. 28 He warned of ‘militant activism’ (he referred to the destruction in France of a McDonald’s outlet) and concluded it would become more prevalent.

28 Speech delivered at the (Australian) Investment and Financial Services Association conference, Gold Coast Convention and Exhibition Centre, 2–4 August 2006.
I’m sure the world is going to see more and more of this type of behaviour as we start to enter the complex debates on global warming and energy shortages and water conservation that will be required for nations to survive.29

The subject was now the clash of existential values and basic survival. The object was not spiritual nourishment, but access to sufficient drinking water. Narrow economic rationality is now being replaced by a broader reasoning. The seemingly benign term ‘modern economy’, for most of the twentieth century simply the neutral description of a self-evident ‘good’, is now seen to be no less historically contingent and ideological than the capitalist ideology on which it is based.

The chairman of a company such as BHP-Billiton does not speak inexpeditiously in public. No matter how frank or speculative the words may seem, they are advised and reflect considered opinion. Business opinion tries to anticipate the deep undercurrents in society that are only half articulated, but which indicate ‘the direction the wind will be blowing’ in the future. The wind, they sense, will be blowing from a more sombre direction. The metaphors being used in society are now more biological, the note is survival not celebration, the focus is on species and basic needs not ‘man’ and the grandeur of his soul and his attainments. Notions of human reality itself are changing.

Peter Doherty, who in 1996 was awarded the Nobel Prize for Physiology or Medicine, spoke, as a scientist, of the new human reality:

The application of hygiene, the development of vaccines, the discovery of antibiotics, and improvements in agriculture have led to an explosion in human numbers. There are six times more people on the planet than there were in 1800 at the beginning of the industrial revolution. Forests are being cleared with extraordinary rapidity, soil quality is being degraded, the oceans are being fished out and we are losing biological species at an incredible rate. So far as the natural world is concerned, it would be better

if human beings had remained mired in superstition, ignorance, and the early and unpredicted death that goes with those approaches to life.30

The humanist John Gray, provoked recently by the same issues Doherty identified, described his perception of the new reality:

History is not an ascending spiral of human advance, or even an inch-by-inch crawl to a better world. It is an unending cycle in which changing knowledge interacts with unchanging human needs.

He then declared his somewhat apocalyptic conclusion:

History may have no meaning … but ‘we’ can give it one. ‘We’ are not mankind, however; and the human animal is itself only a passing tremor in the life of the planet. The meaning believers in progress imagine they can impose on history is an expression of their hopes and fears, and bound to be lost in the drift of time. Fortunately, the Earth is larger and more enduring than anything produced by the human mind. For humans, the growth of knowledge means only history as usual—if on a rather larger scale of destruction. For the Earth, it is only a dream, soon to end in peace.31

This is the universe looking down. ‘We’ is not us. It is not a ‘human’ perspective but a perspective of the human. The centre of consciousness in Gray’s scenario, and the Archimedean point from where the eye of judgement surveys, is located outside human consciousness. ‘Spirit’ here is more than just human spirit. Its focus is not the individual or the society, nor even the nation or nations: it is the ‘biosphere’. The boundary is no longer simply the limit of anthropocentric thought. The edge is beyond anthropocentricity. Thus, as Michel Serres has argued: the Hobbesian ‘social contract’, for so long the concept central to society’s understanding of itself, has ‘made us leave the state of nature to form society … as if [society was] no longer rooted in anything but its own history’. Serres argues that contract must now be replaced with a ‘natural contract’.32 The domination of nature is not progress, he says. ‘At stake is the Earth in its totality, and humanity, collectively. Global history

30 Peter Doherty, “Plagues, Pestilence and How we Deal with Them”, MDHS Dean’s Lecture, University of Melbourne, 1 August 2006.
enters nature; global nature enters history: this is something utterly new in philosophy.’

It is also something utterly new in history. History here has a different meaning. Old boundaries fail. Anthropocentricity becomes an historical concept. But if we were to properly explain anthropocentric belief—either rationalized or intuitive—how deeply should we trace? Daniel Dennett has submitted that the emergence of belief was ‘Somewhere between a hundred million and three million years—depending on when we decide to date the birth of human culture.’ As he observes, it took roughly the same length of time to create *homo sapiens* as it did to create ‘daisies and snail darters, blue whales and spotted owls … We correctly intuit a kinship between the finest productions of art and science and the glories of the biosphere’. Body, brain, culture and biosphere are one indissoluble whole. As Maitland famously remarked, ‘such is the unity of all history that any one who endeavors to tell a piece of it must feel that his first sentence tears a seamless web’. But Maitland’s descriptor ‘all’ now has a wider meaning. There are no obvious boundaries to any disciplinary inquiry.

IV

The exploration of ‘humanity’ and its future seems now more connected to understanding the whole which is culture and nature—*Geist-Natur*—than each separately. Basic research would now seem necessarily to have to place its point of observation not just outside culture, or society, or nature, but to somewhere outside the combined entity. And if ‘humanity’ is to survive, it would seem that effective management of the processes whereby research and development processes are meaningfully integrated with the processes for social and political innovation and action, is now critical.

The relationship between intelligence and survival itself requires research—as the case of Weininger demonstrates. Is survival the highest ‘human’ (cultural-being) goal? One does

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33 Ibid., 4.
not live solely in order to survive. An enriching aspect of ‘humanness’ is acceptance of one’s short span; of the limits imposed by death on life; that life’s meaning is in the understanding of its finitude; that ‘life’ is in its living. To be ‘human’ is to accept that individual survival is not the highest priority in anything other than a primitive biological sense. Love for others, honour, loyalty, are just some of the reasons countless people in the past, now, and in the future have demonstrated and will demonstrate that this is so. At a sociocultural level, self-preservation means more than raw instinct. Sociocultural notions of human dignity and self-respect are as powerful as fear and hunger in determining human action. As Jürgen Habermas has identified,

> The ‘clearly defined' problem of death and a corresponding criterion of survival are lacking because societies never reproduce 'naked' life but always a culturally defined life.³⁶

Intelligent behaviour here is the assigning of a secondary value to personal survival.

Is intelligence then a ‘human’ fatal flaw? The conclusion would depend on what measure of ‘success’ was used: whether Geist or Natur. Biologically, intelligence may be an impediment to survival, or at least ‘grandeur of soul’ may be. Humanity may have to rely on the mean-spirited or squalid-of-soul if it is to have a future. Indeed, if it was the enrichment of life, not its prolongation, that was humanity’s highest goal, should research priorities, thus Government research funding, be changed? Might the current proportions of funding between medical research and the creative arts be reconsidered? How should intelligence be judged? What knowledge is valuable? These questions are not simply issues of administration, but neither are they questions within the capabilities of the single researcher or single discipline to answer.

Current bioethical and neuroethical concerns demonstrate that even differences between the human and the non-human are dynamic.³⁷ There soon will be neither clear nor obvious

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³⁷ Current issues being discussed by the (US) President’s Council on Bioethics are those of enhancement vs. therapy, the definition of ‘human’, the nature of human dignity, the ethics of
answers to where the boundary between technology and the human lies. Natural science is becoming embedded in the philosophy of subjectivity, and in the philosophy of difference, and, consequently, in notions of autonomy and freedom. Jürgen Habermas has observed of genetic engineering:

> The manipulation of the makeup of the human genome … uproot[s] the categorical distinction between the subjective and the objective … Knowledge of one’s own genome being programmed might prove disruptive, I suspect, for our assumption that we exist as a body or, so to speak, “are” our body’.38

Advances in neurotechnology—particularly the technological enhancement and manipulation of cognitive function—now mean that notions of autonomy and autonomous reason become problematic. Similarly, biotechnology problematizes the traditional philosophical separation of the animate and the inanimate. With the insertion of technology into the human body, and technology’s ability, through enhancement or other manipulation, to reconstruct identity and social function, technology is now a form of life. This instrumentalization of human nature is, Habermas argues, initiating a change in the ethical self-understanding of the species. In Habermas’s view, the new self-understanding is no longer consistent with normative self-understanding that assumes as essential modes of living, self-determination and responsible action.39

But whereas Habermas may be correct in identifying an inevitable change in normative understanding, he is not correct if he is implying that the enhanced or altered ‘body’ is incapable of responsible action. The blurring of the distinction between the ‘natural’ and the manufactured means only that our notions of alterity need revision. Instrumentalization means only that there is now no absolute alterity regarding ‘natural’ and ‘hybrid’ bodies.

neurotechnology etc. See http://www.bioethics.gov/. Jonathan Moreno, currently the director of the Center for Biomedical Ethics at the University of Virginia, considers the regulation of human enhancement, and neurotechnology, to be the major social policy challenges of this century (Jonathan D. Moreno, ‘Mind Wars: Brain Research and National Defense’, speech delivered to Human Rights for the 21st Century: Rights of the Person to Technological Self-Determination conference held 11–13 May 2007, New York).

39 Ibid., 42.
Socially acceptable standards of behaviour can still be required of a ‘person’, regardless of the person’s level of hybridity. The social boundaries that define the ‘person’ are set normatively, not descriptively, they change as the society and its environment change. As Rhana Pike has observed, except for the distinction between person and property, no current legislative or statutory definition of the person exists. But even the distinction between person and property is not universal—in the past slaves, women, and children have been defined as property, and corporations as persons.  

What it is to be human—the ‘human measure’—has always been a judgement based on intuition, social practice, and legal tradition, not science or philosophy. Ultimately it is how the ‘other’ acts—whether the other can be trusted to exercise social or moral responsibility—which fixes our judgement. Alterity is not judged physically but behaviourally. Hannibal Lecter (the character in the novel *Silence of the Lambs*) and Rachel (the cyborg ‘replicant’ in the film *Blade Runner*) represent, respectively, the existential nightmare and the existential dilemma for the morally and psychologically ‘normal’ citizen. Lecter is human, but ‘inhuman’, whereas the gentle and sensitive Rachel, with her implanted ‘human’ memories and self-doubt, elicits genuine compassion from the audience who witness her mistreatment and her pain; to treat her as other than a person seems cruel and inhumane. Trustworthiness is more important than genus in determining how we will react to ‘others’. Having confidence that we will be treated by another as we expect to be treated, and as we would treat them, would seem to be the customary rule-of-thumb—our interest is not so much

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40 Rhana Pike, “Plenary Presentation: To Sail beyond the Sunset: Navigating the Uncharted Waters of Bioethics”, *Science Editor*, 27, no. 5 (Sep.–Oct., 2004): 150. These issues were behind much of Maitland’s inquiry.
42 Two projects currently funded by the European Commission: ‘FEELIX GROWING’ (€ 2.5 million), and ‘LIREC’ (€ 8.2 million) are investigating the development of robot companions that attain ‘companionable’, useful, relationships with their human owners.
whether the ‘other’ is human, but whether it can be relied upon to be ‘human’. Should or should not the chimpanzee with neurotechnologically enhanced cognitive function (through an implanted brain chip) acquire the same rights as a person whose brain functions similarly? In the future, will we have any more right to know whether someone is a cyborg-human hybrid than we have now to know the details of someone’s medical history?

These issues are now real: with the speed of advance of genetic research, they have moved from the realm of the fantastic to the possible within a generation. The theory and politics of posthumanism are now mainstream academic topics. Lawyers, ethicists, and scientists now discuss the ‘convergence of NBIC Technologies’ (NBIC is the abbreviation of nanotechnology, biotechnology, information technology, and cognitive science). The issue is not that of technology being forced on an unwilling public, but the opposite. How extreme may requests from enthusiastic ‘consumers’ for enhancement or manipulation be (and which are able to be satisfied promptly by an enthusiastic enhancement ‘market’), before they are considered ‘irrational’ or ‘insane’? How far should the normative ‘space’ be expanded?

In the enhanced-human future, how might history elucidate who ‘we’ are and where we have come from? What origin story will it tell?

Subjectivity, Embodiment, and Systems

In the introduction to his book The Shattered Self: The End of Natural Evolution, where he describes the extraordinary possibilities now realizable through biotechnology, the mathematician Pierre Baldi commented:

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43 Pike, “Plenary Presentation”, 150.
44 For example, The theme of Cultural Critique, Issue 53, was ‘Posthumanism’. The essays for that special issue grew out of sessions on the politics and theory of posthumanism held as part of the Third Crossroads in Cultural Studies Conference, held in Birmingham in 2000.
Life does not really feel the same once we begin to see ourselves as “biological information-processing machines” … But exploring the universe, regardless of whether or not it is likeable, is also part of the human quest. ⁴⁶

Baldi commenced his introduction by identifying what he described as ‘the most significant event in our history, and perhaps in the 3.5 billion-year history of life on Earth’. That event was ‘mankind’ (with the completion of the Human Genome Project) staring for the first time at its own genome. The human formula was now identified and able to be stored as information that would open a vast new set of possibilities for biology, biotechnology, medicine, and human development. Combined with this revolution was the fact, Baldi noted, that,

Within the same generation, the human brain will face machines that surpass its raw computing power and an interconnected world of information processing devices that makes science fiction pale in comparison. Together these milestones raise profound and troubling questions about the nature and boundaries of life, intelligence, and who we really are. ⁴⁷

For many scientists, however, the questions were exhilarating rather than troublesome.

Earlier, Hans Moravec, a robotics scientist, had predicted that soon it would be possible to download human consciousness into a computer, and that the development of super-intelligent machines was inevitable. ⁴⁸ A consequence, Moravec speculated, was that

Rather quickly, they could displace us from existence. I'm not as alarmed as many by the latter possibility, since I consider these future machines our progeny, “mind children” built in our image and likeness, ourselves in more potent form. ⁴⁹

Ray Kurzweil, another scientist and technologist, reflected that hyper-intelligent machines—

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⁴⁷ Ibid., 2.
achievable through iterative, thus exponential, self-improvement—could and would undertake social decision-making better than humans, and that within decades there would be hyper-intelligent machines with human-like creativity. Moravec did concede that ‘the available tools for peeking into that strange [machine-world] future—extrapolation, analogy, abstraction, and reason—are totally inadequate.

One central assumption in these speculations (apart from the ontological and cultural ones regarding the nature of being, desire, language, power, etc.) is that information can capture all that is essential about the human organism. Change the code and you change the person. The physical body, by this logic, is merely the media—‘biomedia’—for information; merely the material carrier for the information it expresses. Thus the non-corporeal cyberperson is a wholly viable concept. Consciousness can be separated from embodiment.

If for one moment that extraordinary proposition was accepted, then by the same reductive logic, disembodied thought would exist independently of the life-world, thus wholly self-sufficient within its own wholly digital-noumenal world. If so, it is not clear why, or how, it would engage with the phenomenal world, nor why the phenomenal world would be bothered with it. Or, if it did engage with its life-world, that engagement would be with, and inside, the cyberworld in which case, again, its relevance and value to the human world is not obvious. ‘Disembodied thought’ is an oxymoron. By the second half of the twentieth century the long philosophical journey onwards from Cartesian mentalism had established that the ability to grasp meaning was not primarily through mental representation, but embodiment. Heidegger, Merleau-Ponty, Wittgenstein in particular (and Sartre, Bourdieu, and others) had argued convincingly that, while the ability to manipulate symbols was important, being-in-the-world was the primary epistemological and ontological ‘ground’. Since then, work done in neuroscience, philosophy, history, cultural anthropology, critical

51 Moravec, “Robots, Re-Evolving Mind”.
53 ‘Life-world’ in the Husserlian sense, thus: the natural world by which the functioning subject involved in the circle of other functioning subjects grounds belief, sense, and meaning.
and cultural theory, and other areas, has further supported that conclusion. Body, brain and
culture form a unified whole. For intelligent machines to have any relevance to the embodied
world of humans, they would need to have, as part of their computation data-bases, a *dynamic*
representation of that dynamic, intercorporeal, intersubjective, intersociocultural world—
which, for a machine *as* machine, is impossible.

The context for considering biology and technology convergence, therefore, is more the
humanization of technology than it is the instrumentalization of biology. The ability to
understand the meaning of technology can only be achieved through humanistic discourse,
not science. Nevertheless, science changes ontology, as much as ontology changes science.
Any ‘critical ontology of ourselves’ that is undertaken cannot avoid being affected by science
and technology. Within that critical ontology, the idea of a fixed and finite human nature
must now be replaced by the idea of human nature which is unfinished and unbounded, and of
which science is as relevant to its understanding as were (and are) theories of the modern
disenchanted subject and theories of the postmodern decentred subject. Subjectivity and
embodiment, autonomy and causality, freedom and necessity, and intelligence and action are
not *Geist* and *Natur* binaries, but interrelated elements in a dynamic whole: *Geist* in *Natur*,
*Natur* in *Geist*. The basis for any effective critical ontology of ourselves can only properly be
undertaken through the integration of *Geisteswissenschaften* with *Naturwissenschaften.*

Further, and contrary to Pierre Baldi’s view, life does *not* have to feel different if we do
see ourselves as “biological information-processing machines”. A model of the human being
which defines that being as a complex adaptive organism driven by a complex hierarchy of
needs and desires (an organism for which belief is as fundamental as food), accommodates
most historical, normative, humanistic, conceptions. If the model definition was further
refined to ‘a complex learning system which has become ‘tuned’ to knowledge acquisition
and meaning’, even less conceptual change is required. Such a model does not affect the
centrality to social, cultural, and political life of critical reason, individual autonomy, or moral

54 Both modernist and postmodernist discourse, such as Horkheimer and Adorno’s *Dialectic of
Enlightenment*, Jonas’s *The Imperative of Responsibility*, and Haraway’s *Simians, Cyborgs, and
Women*. 
responsibility. On the contrary, it identifies those characteristics and notions as the highest-evolved elements of the complex ‘system of systems’ which is our life-world, namely, the human-system in the system-of-humans in the biosystem. The ethical and political remain central to thought and action. The normative remains as important as the naturalistic in understanding the life-world. Such a definition is nothing more than acknowledgement of the necessity for a broader investigative model. And a ‘systems’ model, as well as providing conceptual utility, is infinitely ‘scalable’: it can be applied not only at the level of the subject, but at the level of society, and so on. Furthermore, such a ‘systems’ model satisfies one of the primary requirements for integrated study: it joins the material with the immaterial. It joins Natur with Geist.

It might be argued that the promotion of ‘systems’ models is to regress to the physicalism and reductionism which resulted in the discredited behaviourism of Skinner, or the flawed functionalism of Talcott Parsons. But that would be to dismiss the power of the system concept because of particular past experiences with its application, and it would be to ignore the significant advances in understanding made since then of systems concepts.\(^{55}\) Systems theory remains a rich, if controversial, conceptual tool in social theory,\(^{56}\) but it is also, as the advanced-technology development industries found, central to processes for the integration of multidisciplinary effort. Thus a primary consideration in adopting systems thinking, is not theoretical insight—though that is achieved—but practice with the integration of scientific and humanistic studies.

Experience with the development of complex human/hardware/software systems since the middle of the twentieth century—such as in the space program, nuclear program, the

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\(^{55}\) Advance gained through experience such as that of the defence, aerospace, telecommunications, and software industries, and the systems-biology research industry (for example, The Simons Center for Systems Biology at the Institute for Advanced Study, Princeton).

\(^{56}\) Since the mid-twentieth-century, systems theory has been an established conceptual tool. In the 1970s and 1980s, the work of Niklas Luhmann, in particular, brought it to new prominence (Luhmann had studied Parson’s system theory, but discarded it as flawed, and developed a new theoretical systems framework). Notwithstanding the debates Luhmann’s work stimulated—particularly with Jürgen Habermas—it remains a productive, if partial, concept. See, for example, Thomas McCarthy, “Complexity and Democracy, or the Seducements of Systems Theory”, New German Critique, no. 35 (Spring–Summer, 1985): 27–53.
ballistic missile program, and now the convergence programs of the new ‘wired world’—has led to the understanding that the system concept is the key to managing the synthesis of immensely complex and diverse disciplinary effort. If the system concept could be adapted for use in the management of academic research and product development, then the management processes and frameworks developed by mature, proven, system development organizations such as NASA or US Defense, could be utilized, first to better integrate specialist research within each research category, and second to better manage the relationships between categories. Notwithstanding the management benefit, the technology-centred systems concepts also assist with notions of subjectivity and ‘society’.

II

To understand any system, the system’s parts, the interrelationships between the parts, and the relation of the parts to the whole, require study. The definition of a system is that it is a combination of parts which function as a whole, but the whole function is greater than the sum of the functions of the parts. Properties ‘emerge’ that are extra to the parts. Extra functionality is created through form and the nature of the attraction or tolerance that exists between the parts. Form occurs through chance or design. The relation of the parts to each other determines the whole, but the nature of the whole determines the types of parts which will be coincident and how they will relate. A fish is very different from a bird, but in each the parts are in harmony. A complex system can be anything from a mobile phone, say, to a space shuttle, or a fruit fly to a human. A ‘person’ is a mind-body system, which is, in turn, a subsystem of the larger social/cultural system which is the ‘society’, which is itself a subsystem, and so on. The critical ontology of ourselves—the postmodern-era research program—is research into our life-world’s components, parts, subsystems, wholes, and their

57 This latter aspect will be explored in Chapter 5.
58 Which may themselves be systems.
59 Maurice Merleau-Ponty, in Phenomenology of Perception, in trying to explain intentional action, uses the term ‘comportment’ of the parts (of the body) to describe the relation of the parts to the type of attraction or tolerance. He introduces an activity he calls ‘motor intentionality’ in which the agent, rather than aiming at success, feels drawn to reduce a felt tension. See Hubert L. Dreyfus, “A Merleau-Pontyian Critique of Husserl's and Searle's Representationalist Accounts of Action”, Proceedings of the Aristotelian Society, New Series, 100 (2000): 287–302.
interrelationships.

Complex systems, by exhibiting capabilities that are greater than the sum of the capabilities of their parts, exhibit *supervenient* capability. The set of components constituting a system always has, as the system-set, some characteristic or behaviour that cannot be exhibited by any of its subsets; that is the definition of a system. The relationship between the subsets, not the subsets themselves, determines the system functionality. The relationship determines both the nature of interfaces and the nature of the *information* exchanges across the interfaces. If they are not compatible, there will be no system. Each subset may work perfectly, but the system will fail to perform. The US Department of Defense and NASA had learned that lesson the hard way after expensive failures in their many development programs in the 1950s and onwards. For them the new, fundamental, understanding was that architecture (form), not components, was the key determinant of system capability—of the system’s *supervening* features which were, of course, the point of the system. If they were not, why develop a system? All one would need to do was procure the subsystems individually and independently. Consider, for example, a naval combat system. The combat system provides a *system-level* capability (a certain probability of survival for a particular threat scenario). That capability could not be provided by the individual subsystems acting independently.⁶⁰

To an external observer, the combat system appears to be ‘thinking’ holistically in that it detects, classifies, decides, and acts like a complex information processing organism adapting to a particular environment. For its development, the ‘system’ is defined in a ‘top-level’ specification comprised of, say, three thousand requirements. Perhaps two thousand of those requirements can be ‘allocated’ directly to the sub-systems that comprise the system. For example, requirements for detection of a particular threat may be allocated directly to one radar subsystem. However, the remaining system requirements will be unallocatable because they have no meaning for any of the subsystems individually, they only have meaning at the

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⁶⁰ The subsystems of a typical combat system are: sensor (above-water, below-water, electromagnetic), command-and-control (classification, threat evaluation, weapon assignment), engagement (weapons), and support (navigation, communication).
Therefore, each of those requirements must be decomposed into a set of derived requirements that can be allocated to the constituent subsystems—in other words, have meaning for the subsystems. Thus there is a one-to-many mapping: the total number of requirements needed to specify design parameters for the various subsystems will be a multiple of the ‘top-level’ system specification. The art of the system architect, and the subsystem design specialists, is ensuring that both the parts and the whole are ‘tuned’ to ensure optimum performance of the integrated whole against defined threats. This may mean that one or more subsystems are tuned to well below their potential capability, but that is irrelevant. The ability of the system to interact with its external environment so that it achieves a defined overall probability of survival is a result of the synergy of a particular integrated relationship. That capability is immanent to the integrated whole; it is a supervening feature.

The fact that a ‘system’ can be defined at any level of aggregation, means that it has unlimited ‘scalability’, and hence great flexibility. Supervenience is a characteristic at any, and all, levels. With the human system, consciousness can be conceptualized as system-level functionality of a particular complex ‘open’ system. Mind is thus the emergent—‘supervenient’—function of the integrated body subsystems. Subject and object are merged in one system entity. Clearly we cannot stand outside the metaphysics of subjectivity; this ‘merged’ conceptualization is itself an object in consciousness, the psychological and Kantian division of world into subjective and objective parts seems unavoidable. But that sense of

61 For example, the requirement: ‘the system shall provide defence against [defined] air and sea threats.’
62 An ‘open system’ is simply one that allows information, energy, and matter to cross its boundaries.
63 It is striking how close the modern system-discourse is to the eighteenth-century ‘Enlightenment vitalism’ argument which sought to mediate between early eighteenth-century mechanism and animism. Peter Hanns Reill describes how Charles Louis Dumas (who coined the term ‘vitalism’) explained that this new approach to science was to rectify the misuse of physical laws which supported the ‘ancient sect’ of mechanists and the misuse of metaphysics which supported the equally ancient sect of spiritualists. Dumas, writing at the beginning of the nineteenth century, declared that the new vitalistic science ‘will derive all appearances of life neither simply from the material nor simply from the soul, but rather from a capacity that lies in the middle between both’. Peter Hanns Reill, “Science and the Construction of the Cultural Sciences in late Enlightenment Germany: The case of Wilhelm von Humboldt”, History and Theory, 33, no. 3 (Oct., 1994): 348.
phenomenal/noumenal duality does not mean that dualism is the self-evident ‘actual’ reality. As Alfred North Whitehead remarked:

Consciousness presupposes experience, and not experience consciousness … Locke inherited [from Descartes] the dualistic separation of mind from body. If he had started with the one fundamental notion of an actual entity, the complex of ideas disclosed in consciousness would have at once turned into the complex constitution of the actual entity disclosed in its own consciousness, so far as it is conscious — fitfully, partially, or not at all.

Whitehead had no doubt that dualism was a false abstraction rooted in what he called the ‘theory of the bifurcation of nature’. The cause of the false abstraction is the reflexivity of consciousness, and the abstraction would have existed from the time that self-awareness of consciousness first emerged. The associated argument has existed at least since Plato argued for the existence of soul as a separate entity from body, and Aristotle that they were one integrated material whole.

In the work of Niklas Luhmann, the universal, ontological, whole is the life-world as social system. Luhmann, in *Social Systems*, represents the complete life-world as a system of psychic and communicative systems. He was not proposing a theory of communicative action as Habermas had done (which assumes the interaction of a life-world with other systems), he was asserting that the life-world is the supervenient result of interacting subsystems. Society, in Luhmann’s theory, is neither individuals nor a collective: it is a communicative system. Language is the medium and structure by which psychic systems

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64 Niklas Luhmann, in proposing his own totalizing social systems theory, was perfectly aware of the problems with any theory that claims universality — that it appears as its own object — but noted that ‘at the same time, they [the theories] always learn something about themselves from their objects.’ Niklas Luhmann, *Social Systems* (Stanford: Stanford University Press, 1995), xlvi.


66 This was a persistent theme, but in particular in *Process and Reality*.

67 Jürgen Habermas in his “Excursus on Luhmann’s Appropriation of the Philosophy of the Subject through Systems Theory” commented that Luhmann had just replaced the philosophy of the subject with something else, and inherited the same problems of self-reference: ‘The system-environment relationship takes the place of the inside–outside relationship between the knowing subject and the world as the totality of knowable objects.’ Jürgen Habermas, *The Philosophical Discourse of Modernity: Twelve Lectures* (Cambridge: Polity Press, 1987), 369.
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(consciousness) interact (and harmonize) with communication (social) systems. Society is a system of systems. In Luhmann’s schema, a ‘system’ is any organic, psychic or social form that is self-organising, and self-creating. Within a system’s boundary, external complexity has been reduced. The system’s active engagement with the chaotic external world results in the transformation of (outside) ‘other’ into synthesized, ordered, system (inside) ‘matter’. The process of transformation which occurs at the boundary means that the boundary is a ‘meaning’ boundary; the systems are meaning-systems that operate within networks of systems. Social systems emerge because of the ‘double-contingency’ of the interface between interacting agents seeking a meaning equilibrium (harmony). ‘Double contingency’ is the awareness of each interacting agent that they are free interpreters of the other’s behaviour, and that each is aware of that fact.

Luhmann had taken systems theory to its ontological limit. He acknowledged that his hypotheses were a ‘flight above the clouds’, but was seeking a unified theory of consciousness and society. The Enlightenment paradigm of consciousness as transcendental subjectivity, with the philosophy of subject developed from it, was exhausted. Other attempts to theorize the nature of the intangible entity which was ‘society’, such as those of Durkheim, Weber, Parsons, and Habermas, retained the idea of both the society and the individual as a well-defined essence; an idea which continues to cause problems. Luhmann’s hypotheses regarding society may have been flights above the clouds, but they were genuine exploration at the edge of understanding—his conceptual explorations were pure basic research.

In theorizing the individual also, systems concepts have much to offer. In both the human system and the manufactured system, teleological concepts such as wholeness, choice, and purposeful action are valid. Both exhibit advanced capability regarding feedback of corrective information and goal-seeking behaviour. In both, the concept of information

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69 This is the subject of Stephen Turner’s article: “The New Collectivism”, History and Theory, 43, no. 3 (October 2004): 386–399, where he is skeptical of claims that the collective can be treated as a moral object in the way the individual can.
exchange as a distinct system component is central, as is the natural tendency of the subsystems to settle towards a harmonized ‘equilibrium’ state (Merleau-Ponty’s ‘motor-intentionality’). Both operate in complex, ‘noisy’ environments, where rigorous filtering of large quantities of information is required continuously—and both require expansionist and synthetic, rather than reductive and deterministic, ‘thinking’ for their effective operation. Biological systems with their highly evolved capacity for self regulation or homeostasis, are supremely well-adapted open systems. Significantly, the crucial ability required of both biological and manufactured systems for them to adapt and self-regulate is the ability to sense difference. Equilibrium cannot be sensed. The human system, like the combat system, can only sense change, and both systems are ‘tuned’ to ‘re-harmonize’ once change is sensed.

One key difference, of course, is that the manufactured system is a ‘top-down’ design, whereas the biological/human system is a ‘bottom-up’, ‘trial-and-error’, evolution of synergistic relationships between inorganic and organic parts.

Another important difference is that a system such as a combat system, while a self-monitoring system, is not a learning system. But this is a design choice executed through the selection of computing architectures and algorithms. Users do not want wilful combat systems. The combat system operates through rules and repetition, but the other, the ‘intelligent’ biological system, operates through environmental cues and reinforcement. Manufactured systems based on artificial intelligence principles are designed, increasingly, using neural network architectures; this means they are tuned to pattern recognition, identification of content in the pattern, and reinforcement. In other words designed as learning systems which are ‘tuned’ to simple meaning. As such, they are systems capable of purposeful action in a limited sense.

Nevertheless, the interrelationship of content and meaning is complex, regardless of
whether that content or that meaning is simple or complex. And ensuring that a sound ‘feel for the game’ evolves in the manufactured system so that its purposeful action is appropriate, is problematical. Fallibility is a characteristic of intelligence.\textsuperscript{72} Thus the manufactured learning-system needs, no less than the human system, a ‘parent’ to watch over it and show it what behaviour is appropriate in different contexts—what ‘feel’ is required for the successful negotiation of life’s game. In a related though opposed sense, Daniel Dennett has continually challenged the assumption that human ‘belief’ and ‘desire’, so intimately related to sociocultural meaning, are different conceptually from a computer’s design ‘stance’ (the designed goals and sub-goals). For Dennett, there is no difference.\textsuperscript{73} Desire and belief are proof of nothing other than certain body dispositions.

A significant difference between the technological learning system and the human organism, and one that obscures recognition of the fundamental similarities, is the massive complexity of the human system when compared with artificial systems. The human neural network alone \textit{dwarfs} any technological analogue; its design ‘stance’ is massively more complex than any computer system’s. To perform \textit{only} the edge and motion detecting functions of the retina of the human eye requires approximately one billion computer operations.\textsuperscript{74} To Allan Hobson, the implications of this complexity are apparent. While describing the ‘wiring’ of the human brain, he commented:

\begin{quote}
Each of twenty billion elements [neurone and its axons and dendrites] generates messages at a rate varying between one hundred and two or three hundred signals per second; hence, each of the twenty billion citizens of our brain-mind is talking to at least ten thousand others at least once, and as often as one hundred times a second [thus a possible twenty-million-billion possible states per second]. With a chatterbox of such proportions it is to
\end{quote}

\textsuperscript{72} Alan Turing noted that ‘if a machine is expected to be infallible, it cannot also be intelligent. There are several theorems which say almost exactly that. But these theorems say nothing about how much intelligence may be displayed if a machine makes no pretence at infallibility’. Alan Turing, \textit{ACE Reports of 1946 and other Papers}, eds B. E. Carpenter and R. W. Doran (Cambridge MA: MIT Press, 1946), 124, quoted in Dennett, \textit{Darwin’s Dangerous Idea}, 428.


me just as incredible that such a system would not have awareness of itself as it is incredible that it does.\textsuperscript{75}

This awareness of self, however, is not solely cognitive, it is also physiological. The neurophysiologist, Antonio Damasio, has studied this interpenetration of brain and body, but has noted an important asymmetry in the process. The brain as an \textit{organ} of the body can be ‘doubled’ (Damasio’s term) as ‘body’ by the body, but the brain is also ‘mind’ (‘mind is what brain does’\textsuperscript{76}), and as mind the brain can do something which the body cannot. ‘The ideas in the mind’, Damasio notes, ‘can double up on each other’.\textsuperscript{77} Mind can have conscious states and, when in a conscious state, mind can have ideas of ideas—what Damasio calls a ‘second-order idea’. In other words: ‘intelligent’ cognition.\textsuperscript{78} The fundamental second-order idea is self-awareness: the idea of self—which Damasio describes as ‘the idea of the relationship between two other ideas—object perceived \textit{and} body modified by perception’.\textsuperscript{79} Thus, given that a consequence of neural activity is the ‘burning-in’ of modified sensory and psychological states through reinforcement of neural pathways, \textit{meaning-perception} is no different from \textit{object-perception} as a ‘burn-in’ trigger. The noumenal is as substantial as the phenomenal to brain chemistry. And the vast number of the neural connections means that vast numbers of previous noumenal and phenomenal states can be stored—to be ‘re-fired’ as memory when required.\textsuperscript{80}

The sheer vastness of the volume of sensor inputs, cognitive computational power, cerebral storage capacity, and systemic complexity of the human system has produced a self-reflexive system in which second-order cognitive function is as important as physiological

\textsuperscript{75} Allan Hobson, \textit{The Dreaming Brain}, quoted in Derek Denton, \textit{The Pinnacle of Life: Consciousness and Self-awareness in Humans and Animals} (St. Leonards: Allen & Unwin, 1993), 112.
\textsuperscript{76} Derek Denton, Howard Florey Institute, quoted in Geoff Strong, “The Mind Game”, \textit{Age} (Melbourne), 8 October, 2003.
\textsuperscript{78} The notion of intelligence will be discussed in the next section.
\textsuperscript{79} Damasio, \textit{Looking For Spinoza}, 215.
\textsuperscript{80} What is stored is the connections and strengths between elements which allow the patterns to be subsequently recreated. There is debate as to the extent that new synaptic connections are made, rather than the altering of strength of pre-existing connections. See Howard Gardner, \textit{The Mind’s New Science: A History of the Cognitive Revolution} (New York: Basic Books, 1987), 396.
function. Mind, through brain, affects physiology as much as mind, as brain, is affected by physiology. Thus, applying the logic of systems theory, harmonization of the integrated mind/body requires harmonization of physiological and higher-cognitive states. The body will fail if the mind (brain in second-order state) cannot harmonize, just as the brain will fail if the body is unable to harmonize. Subjectivity, meaning, and intentional action are embodied system functions.

III

Of particular significance to cognition and recall is the fact that the sequence in which the neural states were imprinted is retained. Thus the stored states are effectively ‘time-stamped’ though, clearly, there is no capture of time as time in this process. Nevertheless, the sequence of acquisition must be retained if the stored images or states are to be useful. ‘Before’ and ‘after’ patterns must be recoverable for any predictive behaviour to be possible—whether that be flicking the tongue out just before the fly arrives, or waiting for the mammoth to reappear. Thus what is stored is what Damasio calls ‘a simple narrative without words’:

It [has] characters (the organism, the object). It unfolds in time. And it has a beginning, a middle, and an end … The imagetic representation of sequences of brain events, which occurs in brains simpler than ours, is the stuff of which stories are made. A natural preverbal occurrence of storytelling may well be the reason why we created drama and eventually books.  

The biological information-processing system is hard-wired for narrative just as it is hard-wired for second-order thought. Thus the human system, operating in complex socio/cultural environments, converts time-stamped sequences in the pre-conscious into complex historically-ordered narratives in consciousness. Body, brain, and culture fold back into each other and a central mechanism for this enfolding is history and narrative. Daniel Dennett takes this thesis further. Not only, he argues, are time-ordered narratives intrinsic to

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any conception of the ‘autobiographical self’, they are our key mechanism for control of our psychic and social environment. ‘Our fundamental tactic of self-protection, self-control, and self-definition’ he says, ‘is not spinning webs or building dams [as beavers do], but telling stories, and more particularly connecting and controlling the story we tell others—and ourselves—about who we are’.83

For William Connolly, Damasio’s research and conclusions constitute ‘the makings of a complex model of human reflexivity, articulated through a neuroscience quite congruent with a philosophy of immanent naturalism’. Connolly concludes that studies such as Damasio’s (and others) ‘rattle established images of causality’ and ‘encourage us to rethink the sufficiency of the alternatives between "scientific explanation" and "narrative interpretation", often taken to represent the two fundamental options of inquiry in the human sciences’.84 In this vein, Richard Harvey Brown has argued that science itself can be subsumed under narrative logic—that paradigm shifts in science itself are reformulations of cognitive traditions in terms of narrative logic.85 And in discussing another body of research, Jonathan Gottschall argues that research indicates that literary universals are a function of neuro-cognitive structures related to emotion, not culture.86 Emotions and feelings, research shows, are more directly linked to rationality than previously thought. Just as the mind and body are indissociable, so too are emotions, feelings, and rationality. The human system

82 William James noted the paradox that the self in our stream of consciousness changes continuously as it moves forward in time, even as we retain a sense that the self remains the same while our existence continues. Damasio calls the constantly modified self the ‘core’ self, and the self that seems to remain the same as the ‘autobiographical’ self. The paradox is solved, he says, by recognizing that there are two entities, not one. The core self is the self of self-consciousness, the self that is conscious of itself having experiences. The autobiographical self is the one ‘based on a repository of memories of fundamental facts in an individual biography that can be partly reactivated and thus provide continuity and seemingly permanence in our lives’. Damasio, The Feeling of What Happens, 217.


interacts with its environment as a fully integrated whole and sentiments are as fundamental a part of that interaction as rationality.  

Damasio has observed through clinical studies of brain-damaged patients that the absence of emotions and feelings results in the breakdown of rationality. Emotion and thinking are interwoven. Emotions and feelings appear to be the direct sensing of body states, and as the body, as represented in the brain, appears to constitute the indispensable frame of reference for the neural processes, loss of body reference data results in impaired cognitive function, both conscious and unconscious. There is a direct link between the body and its survival-oriented regulations enacted in conscious and unconscious action. Damasio concluded that as conscious action reflected second-order sociocultural ideas, 

Our organisms gravitate toward a “good” result of their own accord … organisms can produce advantageous reactions that lead to good results without deciding to produce those reactions. 

The implication is that human organisms are ‘tuned’ to make choices which the social mind uses to construct rational behaviour. 

The research has shown that rational behaviour is not simply logical behaviour. More is involved in self-regulation and autonomous action than reason alone. Consequently, ‘intelligent’ thinking consists of more than the ability to reason logically. As William Connolly has observed, ‘there is much more to thinking than argument’. If emotion and intuition are absent, reason and judgement are impaired. Damasio’s patients were quite capable of logical thought, but incapable of deciding what to do; practical reasoning necessarily involves emotion. 

The political theorist, Sharon Krause, reflecting on Damasio’s and other related

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87 Damasio in particular has produced a large body of neurophysiological research on this topic. See Antonio, R., Damasio, *Descartes’ Error: Emotion, Reason and the Human Brain* (London: Picador, 1994).


research, has observed that ‘the role of affect’ within thinking has ‘powerful implications for how we conduct public deliberation and how we enact democratic citizenship’.90 Our notions of what comprises legitimate content in intelligent debate and action require expansion.

Krause (like Damasio) concluded that

Practical reason necessarily incorporates affective concerns in reaching conclusions about what we ought to do. Norms are intrinsically, not contingently, connected to human motivations, and moral sentiment embodies this connection. Hence the sentiment-based account of democratic deliberation helps to clarify how the conclusions of public deliberation can be both normative for us and motivationally compelling.91

This, though, is more describing what has always been custom and practice rather than enlarging future practice. Context, conscience, empathy and intuition have always been intrinsic to public and private judiciousness. But the research does provide more objective evidence for the validity of that practice.

Similarly, in her study of intelligence and the emotions, the philosopher Martha Nussbaum concluded that the research of Damasio and others (‘Lazarus, Ortony, and Oatley’) confirmed that ‘emotions provide the animal (in this case human) with a sense of how the world relates to its own set of goals and projects. Without that sense, decision making and action are derailed’.92 For Nussbaum, emotions are intelligent responses to the perception of value. Consequently, they ‘cannot be sidelined in accounts of ethical judgement … [and this has] large consequences for the theory of practical reason, for normative ethics and for … political thought’.93 Nussbaum concluded that:

If we think of emotions as essential elements of human intelligence, rather than just as supports or props for intelligence, this gives us especially strong reasons to promote the conditions of emotional well-being in a political context.

91 Sharon R. Krause, “Affective Impartiality”, Paper prepared for delivery at the Political Theory Colloquium, Department of Political Science, University of California, San Diego, May 9, 2007, 22.
92 Martha C. Nussbaum, Upheavals of Thought: The Intelligence of Emotions (Cambridge: Cambridge University Press, 2001), 117.
93 Ibid., 1, 3.
culture: for this view entails that without emotional development, a part of our reasoning capacity as political creatures will be missing.\textsuperscript{94}

And if society is constituted from these political agents, then social well-being must be affected (if Nussbaum’s conclusion is accepted) by the degree to which the material, emotional and spiritual social currents achieve balance in the community.

But our understanding of the process of inquiry will also be affected: what reasoning processes are used, and how they are used in all of the research processes, from pure basic research to experimental development. If our understanding of intelligence, and, by implication, reason, is altered—to acceptance that language and logic are only some of its dimensions—then so too must our notions of knowledge be altered. Since knowledge is linked to ways of knowing, as much (though no more) than it is linked to an observable, evidence-based, external reality, then new knowledge is both new things seen and new ways of seeing. For example, Nussbaum argues that a genuine grasp of complex intelligence will lead us to reassess literary and musical works as sources of ethical education.\textsuperscript{95} Wittgenstein, also, had remarked that ‘people nowadays think, scientists are there to instruct them, poets, musicians etc. to entertain them. That the latter have something to teach them; that never occurs to them’.\textsuperscript{96} There is much knowledge outside language and reason; it too needs to be accessed.

Expanded conceptions of intelligence must lead to the reassessing of categories and modes of research-acquired knowledge. Valid knowledge—knowledge perceived to have value—must now have a wider definition. Specialist research will always be the foundation upon which new knowledge is built, but ultimately the interdependency of the knowledge elements intrinsic to ‘normal’ human functioning must be reflected in the way knowledge is discovered, created, and applied.

\textsuperscript{94} Ibid., 3.
\textsuperscript{95} Nussbaum devotes a large portion of her study to analysis of literary and musical works of such figures as Proust, Joyce, Mahler, for example.
Unified Inquiry and the Unity of Knowledge

In human society, successful adaptation to one’s environment is generally considered a mark of intelligence. The more complex the environment, the more complex the task of successful adaptation. The ability to recognize and exhibit appropriate behaviour in the physical–psychological–cultural network which is the human environment, in all its variety, subtlety, and interconnectedness, places high intellectual demands on its inhabitants. In addition to highly evolved genetically based biological mechanisms, there are needed ‘suprainstinctual survival strategies’ that are several layers of abstraction above biology.\(^97\) The understanding of performed meaning in historical or contemporary ritual such as a murder trial, a political campaign, or a business merger negotiation requires the interpretation of multi-layered, historically constituted, culturally specific, symbolic action. To act appropriately and effectively in those contexts therefore requires immensely complex manipulations of second-order (and higher) knowledge. The ability to comprehend, interpret, enact, and act on symbolic behaviour at those higher levels is central to our ability to survive.

Ernst Cassirer had identified the centrality of symbols to higher-level cognition in his seminal *Philosophy of Symbolic Forms*.\(^98\) Man was, he asserted, a ‘symbolizing animal’. Myth, religion, language, art, science were both ‘symbolic forms’ and ‘symbol generators’.

Language, myth, art, religion, science are the elements [of thought and feeling] and the constitutive conditions of this higher form of society … [they are] the means by which the forms of social life that we find in organic nature develop into a new state, that of social consciousness.\(^99\)

The ability to manipulate symbols, and the ability to interpret and use cultural symbols effectively, was the mark of intelligence in the individual and the primary indicator of potential in both the individual and society.

\(^97\) The term is Damasio’s.
\(^98\) *Philosophy of Symbolic Forms* (3 vols.) was published 1923–1929.
The American developmental psychologist Howard Gardner has studied this notion of intelligence in that broader sense of human social potential. Gardner worked with children and adults to investigate how they dealt with various types of symbols. At first, to frame his study, he defined intelligence as ‘the ability to solve problems or to create products that are valued within one or more cultural setting’. But twenty years later he broadened his definition to ‘a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture’. Gardner now perceived there to be multiple ‘intelligences’, not a single ‘intelligence’. Intelligences were potentialities that may or may not be activated depending on the values of a particular culture, the opportunities in that culture, and ‘the personal decisions made by individuals and/or families, schoolteachers, and others’.  

Everyone, Gardner argued, possesses a number of relatively autonomous cognitive modes (‘multiple intelligences’). The relative strength or weakness of the various ‘intelligences’ varies between people, but each person has a distinctive cognitive profile and distinctive intellectual style. Gardner defined seven ‘intelligences’: musical intelligence, bodily-kinesthetic intelligence, logical-mathematical intelligence, linguistic intelligence, spatial intelligence, interpersonal intelligence (ability to read the intentions and desires of others), and intrapersonal intelligence (access to one’s own feelings and emotions and understanding of one’s ‘self’). Common to these intelligences was the characteristic that they are ‘triggered’ by certain kinds of internally or externally presented information, and that they are, as Gardner explains,

susceptible to encoding in a symbol system—a culturally contrived system of meaning, which captures and conveys important forms of information. Language, picturing, and mathematics are but three nearly worldwide symbol systems that are necessary for human survival and productivity. While it may be possible for an intelligence to proceed without an accompanying symbol system, a primary characteristic of human intelligence may well be its gravitation toward such an embodiment.

Recently, Gardner has argued for another intelligence, which he calls ‘naturalist’ intelligence (the capacity to make consequential distinctions between one plant and another, etc.) and has speculated that there may be a ninth intelligence, which he calls ‘existential’ intelligence. The latter would exist, he argued, if there were certain regions of the brain dedicated to the manipulation of representations of the vast and the infinitesimal. Existential intelligence, he says, is ‘the most unambiguously cognitive strand of the spiritual’:

once one includes the understanding of the personal realm within the study of intelligence, such human proclivities as the spiritual must legitimately be considered … if the abstract realm of mathematics constitutes a reasonable area of intelligence … why not the abstract realm of the spiritual? 102

Gardner’s theses have been rejected by many psychology-researchers, but those specialists do accept that traditional notions of intelligence require broadening. Gardner’s theory has, however, been very influential with educationists, particularly those concerned with the institutional tendency to use simplistic one-dimensional measures for the assessment of children’s learning ability. To them, narrow definitions of intelligence fail to capture the subtle variations in children’s intellectual strengths. It is the complexity of children’s intelligence, they believe, which is not recognized.103

One particular insight that Gardner brings to the debate is his thesis that intelligence has not one dimension, but two. The first is intelligence and the second, domain. ‘Intelligence,’ Gardner argues, comes from the biological sciences, whereas ‘domain’ is a cultural concept. Every culture features disciplines, crafts, activities in which at least some members attain expertise. ‘Any intelligence (like spatial intelligence)’, he argues, ‘can be drawn on in many domains (ranging from chess to sailing to sculpture); and, in turn, any domain can involve one or more intelligences (for example, chess presumably draws on spatial, logical, personal, and perhaps other intelligences as well)’. Similarly, the possession of high bodily-kinesthetic 

1993), 16.
intelligence alone does not mean that one will become a good dancer.  

For researchers also, the possession of high linguistic intelligence alone, or high logical-mathematical intelligence alone, does not mean that the individual will be a good historian, or scientist. But then no individual researcher possesses only one ‘intelligence’, nor does a research field determine the ‘intelligence’ used by a researcher in that field. Sir Peter Medawar observed:

Are scientists a homogeneous body of people in respect of temperament, motivation, and the style of thought? Obviously not … there is no such thing as the scientific mind. Scientists are people of very dissimilar temperaments doing different things in very different ways. Among scientists are collectors, classifiers and compulsive tidiers-up; many are detectives by temperament and many are explorers; some are artists and others artisans. There are poet-scientists and philosopher-scientists and even a few mystics … most people who are in fact scientists could easily have been something else instead.  

Scientific research requires both empirical and symbolic reasoning, and so does humanities research. And just as there are properties of human existence that can be explained reductively, so too are there properties of human existence that cannot.

Similarly, though we may prefer to believe that there is something special about human beings, that desire and belief are proof of nothing other than certain body states. Neither science nor the humanities can be the primary referent for valid knowledge. Any ‘epistemic’ knowledge model used in research must accommodate the material and the immaterial, the empirical and the symbolic. It must accommodate the socially constructed nature of knowledge, but also acknowledge that scientific reasoning gets things ‘right’ about the natural world of which the symbolizing animal is a product—science ‘works’.

II

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Just as there is no single disciplinary mind, so there is no single disciplinary knowledge.

There is a continual blurring of the disciplinary boundaries caused by the multifariousness of research minds and the connectedness of knowledge, however specialist. In 1980, Clifford Geertz commented that there had been

in recent years … an enormous amount of genre mixing in … intellectual life generally, and such blurring of kinds is continuing apace … It is a phenomenon general enough and distinctive enough to suggest that what we are seeing is not just another redrawing of the cultural map—the moving of a few disputed borders … but an alteration of the principles of mapping. Something is happening to the way we think about the way we think.106

Geertz qualified his observation with the comment that

Of course, to a certain extent this sort of thing has always gone on … But the present jumbling of varieties of discourse has grown to the point where it is becoming difficult either to label authors (What is Foucault—historian, philosopher, political theorist? What Thomas Kuhn—historian, philosopher, sociologist of knowledge?) or to label works.107

But perhaps what is significant here is the implied assumption that authors and discourses provide discrete knowledge that can be labelled. While neither wholly wrong nor unreasonable, the view reflects the evolution of the late twentieth-century research university, rather than some self-evident truth regarding knowledge.

The idea at the centre of the idea of the research university was the intuitive belief, implicit to German Idealism, in the unity of knowledge. Separate disciplines were only a reflection of different methods of inquiry into the nature of knowledge, and collectively the disciplines constituted a single institution whose coherence depended on it vitally embodying its inherent idea. The perceived cognitive superiority of philosophy and history meant that, functionally, they were able to provide the fundamental ground by which the specialized fields within the natural sciences and humanities could be intermeshed. The polemic the founders directed towards the ‘bread and butter sciences’ and against the ‘derivative quality

107 Ibid., 166.
of those faculties which find "their unity not in knowledge directly, but rather in some external occupation" was because they violated that vital ideal. Without the idea of ‘pure basic’ research into knowledge itself—the pursuit of knowledge for its own sake—there would be no ‘university’, there would be only trade schools.

By contrast, the modern research university, while still notionally embodying the ideal, actively concentrates on functional specialization within, in Habermas’s words, ‘an ever more swiftly differentiating system of knowledges’, whose logic can lead them to ‘discard like an empty shell what once had been called its "idea"’. The discarding is epitomized by the late twentieth-century ‘epistemology wars’ between postmodern relativists and epistemological objectivists. In the modern academy there is no discipline (or disciplines) that can act as a synthesizing force. Neither philosophy nor history can. Knowledge is now seen to be assembled from multiple sources in the sciences, the social sciences, the arts and the humanities. Research practice reflects the fact that the nature of meaning and the normative character of intellectual processes are as central to inquiry as the pursuit of knowledge about things-in-themselves through evidence-based science and logical reasoning (as in physics and mathematics). There is a constellation of disciplines within a multidisciplinary firmament.

Nevertheless, the underlying disagreement between relativists and objectivists, within the sciences and the humanities as well as between them, means that ‘scientific’ inquiry, and hermeneutic inquiry are still seen as polar opposites rather than ‘points on an epistemological gradient’ as Barbara Herrnstein Smith has recommended. Clifford Geertz agrees with the need for harmonization, but sees opposition differently: ‘Given the dialectical nature of things, we all need our opponents … What we are most in want of right now is some way of synthesizing them.’ Since no single discipline is foundational, synthesis can only be facilitated, as it is in complex multi-disciplinary technological systems development, by the

109 Ibid., 5.
use of a generic conceptual model that defines relationships between parts.

If we were to use as the basis for a model Smith’s metaphor of ‘epistemological gradient’, it has the problem that it implies linearity, direction, and hierarchy (higher/lower); and the problem with Geertz’s specification of a dialectic process is that it reinforces the idea of binary relations and linear connectedness. To be faithful to the complex and enfolded nature of human cognition and creativity, any synthesizing model needs to be multi-dimensional and ‘free-floating’—to represent a cognitive ‘force field’ that expands and contracts with the pulse of inquiry. No one disciplinary style of reasoning is cognitively superior to any other. Each have their necessary place in any probing of epistemological and ontological boundaries. Any model must accommodate both difference and complementarity.

In his discussion of Enlightenment vitalism, Peter Hanns Reill remarked that the ‘refrain of the analogical similarity of the laws governing the physical/organic and spiritual/moral worlds runs through all of Humboldt’s writings’. Reill argues that Wilhelm von Humboldt’s two foundational essays incorporated a vitalistic vision of nature and epistemology that

blurred the strict mind/body distinction, emphasizing the mediation between them. The image of mediation between limiting boundaries and the desire to increase the variety between the limits reigned supreme in Humboldt’s logic of ambiguity. Subject and object, form and representation, sign and signified … were locked in an intimate reciprocal relationship.

‘Enlightenment vitalists’, Reill proposed, ‘were grasping for a new way of organizing reality built upon the concepts of ambiguity and paradox‘. They were, he argued, ‘striving to establish a logic of the ambiguous, enthroning complementarity over unity or contradiction‘.

113 “Ueber das vergleichende Sprachstudium in Beziehung auf die versheidenen Epochen der Sprachenwicklung” (1820), and “Ueber die Aufgabe des Geschichtschreibers” [On the Historian’s Task] (1821). Reill, “and the Construction of the Cultural Sciences”, 357.
115 Ibid., 354.
But that impulse is more biological than historical—it is not just the distinctive character of early nineteenth-century Idealist thought. Reill observed that ‘in many ways this activity parallels what Bachelard seems to have been striving for in his attempt to evolve a new way of understanding science’. Bachelard, like Whitehead, was seeking to establish complementarity rather than dualism in the structure of thought. ‘What was needed’, Bachelard argued, was ‘an ontology of complementarity less sharply dialectical than the metaphysics of the contradictory’.116 Ambiguity rather than the discrete difference:

What I am proposing, therefore, is a new way of looking at ambiguity, a view sufficiently supple to comprehend the recent teachings of science. The philosophy of science is, I believe, in need of generally new principles. One such principle is the idea that the characters of things may be essentially complementary, a sharp departure from the tacit (philosophical) belief that being always connotes unity.117

But as well as complementarity within science, there is also the complementarity between science’s verbally formulated account of scientific reality (however ambiguous that reality) and the socially malleable reality by which that verbal account is deemed plausible. Truth is made as well as found. And with inquiry itself, there is a further complementarity. Inquiry is an attempt to discover how things ‘really are’, but at the same time is a process of discovering new ways of seeing. Richard Rorty was referring to this duality when he asserted: ‘Dreyfus tends to read for adequacy, but I usually read for edification’.118

‘Recontextualizers’, Rorty explained, are not people who reveal the essential nature of anything, but simply tell you how things look when rearranged … I remain deeply suspicious of the claim that some phenomenologists get something right that others have gotten wrong.119

And Peter Burke has suggested that ‘One might … define originality, innovation, invention,

116 Ibid., 354.
or creativity in terms of the capacity to recontextualize’.\textsuperscript{120} Discovery, then, the idea at the
centre of the modern notion of research, can be as much about recontextualizing known
‘things’ as finding new ones. But it remains both.

Contextualization is placing something in context. Clearly, there is an actuality to be
contextualized. Inquiry presupposes understanding and to understand something as
something, presupposes not just context, but awareness of some thing.\textsuperscript{121} Michael Ermarth
has commented that for Dilthey ‘“understanding” was inseparable from “reshaping” and that
human thought cannot be divorced from the outer world of concrete conditions and actions’.
Dilthey, with his concern for methodological rigour, was never happy with the connotations
of Geist but found alternatives such as ‘social sciences’, ‘moral sciences’, ‘historical
sciences’ unsatisfactory also.\textsuperscript{122} Dilthey, like Bachelard later, sought complementarity.

Rethinking the way we think of facts, knowledge and their application are integral to
the research and development process, but thought and meaning cannot be solely about
thought and meaning. Mind supplants neither body nor culture, nor biosphere.

III

If a synthesizing model is to be developed, the different ways of reasoning, discovering, and
creating need to be reconciled. The model must provide compatible theoretical and practical
interfaces. Theoretically, it must avoid assigning precedence among knowledge types but
allow the interconnection of different categories of knowledge. Practically, it must
acknowledge the differentiating system of knowledges that arise from the functional
specialization inherent in the modern research university, but enable interconnection of the
different specialist domains.

The primary function of such a model is to provide a common visual schema through

\textsuperscript{121} Whitehead describes this as the difference between ‘immediacy-perception’ and ‘meaning-
Co., 1927).
\textsuperscript{122} Michael Ermarth, \textit{Wilhelm Dilthey: The Critique of Historical Reason} (Chicago: The
which specialist inquiry can be connected and integrated. The rationale for integrated inquiry is that the notion of separate understanding is worthless if it cannot be combined (at some point) with other knowledge and understanding to provide the more holistic knowledge that is ultimately desired and needed. Specialist research will always be the foundation upon which new knowledge is built, but specialist knowledge can only ever be partial and its natural trajectory is towards deeper research and further specialization. Ultimately the fusion of the multiple ‘knowledges’ and ‘intelligences’ intrinsic to ‘normal’ human functioning must be reflected in both the way knowledge is discovered and created, and the way it is transmitted and applied. That correlation and fusion cannot be achieved by specialists alone—just as specialists alone in defence and aerospace cannot produce whole systems. Technological synthesis is achieved through shared conceptual models and management processes which ensure integration at a higher level.\textsuperscript{123}

An academic-research knowledge model must accommodate both different categories of knowledge and different modes of inquiry.\textsuperscript{124} A consequence is that it should have both relational and dynamic characteristics. ‘Relational’ in that categories imply difference, but although there are significant differences in the underlying cognitive ‘stance’ or design focus associated with different knowledges, no category is foundational, each only has meaning in relation to the others. ‘Dynamic’ in that individual disciplines nominally align with particular cognitive modes, thus with particular categories, but there is a blurring of alignments. The disciplines are more as Barbara Herrnstein Smith envisaged them: concentrations of activity along inquiry continuums, rather than discrete polarised ‘packages’ fixed to a particular group or mode.

From our current understanding of neurological and epistemological processes it would seem that the relationship between experience, creative thought, meaning and understanding is tetradic. Each depends on the others for its functioning, and all are required equally for the effective creation and discovery of new knowledge. Consequently, there would seem to be

\textsuperscript{123} This is discussed in Chapter 5.

\textsuperscript{124} Here the term ‘categories’ does not mean ontological elements in an ontological category scheme such as Aristotelian or Cartesian or Husserlian category schemes; but refers to inquiry types.
Ch. 4: Integrated Pure Inquiry

four principal modes of acquiring knowledge: knowledge through explanation, knowledge through intuition, knowledge through interpretation, and knowledge through pure reason. Similarly, just as there are different modes of inquiry, so there are different categories of knowledge which the modes address. The categories correlate with the ‘design stance’—the disciplinary orientation—of the inquiry mode and are, in effect, the inquiry meta-subject. Thus, the explanatory mode could be said to have physical substance (Su), or ‘fact’ (in the Husserlian sense)\(^{125}\) as its meta-subject. Science and science-based disciplines favour this mode. The interpretive mode could be said to have meaning (M) as its meta-subject. The humanities and some social sciences favour this mode, particularly such disciplines as history, anthropology, sociology, cultural studies, for example. The ‘pure’ reason mode could be said to have as its meta-subject ‘being’ or ‘essence’ (E). Philosophy and mathematics practise this mode of inquiry. The intuitive mode could be said to have ‘vitality’ or ‘spirit’ (Sp) as its meta-subject. The disciplines most connected to this category are the aesthetic, creative and performing arts (including prose and poetry writing), but also any mode of inquiry where inspiration, instinct, and mysticism are the primary impulses. Spiritual belief systems such as theism, animism, and pantheism derive from this mode. Vitalism too, but it also links to explanation, thus to the sciences, and to philosophy.

Together, these categories and modes constitute the elements to be modeled. The table below provides a summary and a mapping of their generic alignments.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Meta-Subject/Category</th>
<th>Disciplinary Domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanation</td>
<td>Substance</td>
<td>Science and some Social Sciences</td>
</tr>
<tr>
<td>Interpretation</td>
<td>Meaning</td>
<td>Humanities and some Social Sciences</td>
</tr>
<tr>
<td>Pure Reason</td>
<td>Essence</td>
<td>Philosophy, Mathematics,</td>
</tr>
<tr>
<td>Intuition</td>
<td>Spirit</td>
<td>Religion, Creative Arts, Performing Arts; Decorative Arts</td>
</tr>
</tbody>
</table>

Table 1: Knowledge Map

\(^{125}\) In the basic Husserlian category scheme ‘fact’ means concrete entities in time or space-time. See David Woodham Smith, Mind World: Essays in Phenomenology and Ontology (Cambridge: Cambridge University Press, 2004), 257.
Thus, the model will be an arrangement of four ‘nodes’ where each node relates to all others equally (since no node (category, mode, or discipline) is foundational). In other words, the nodes constitute a tetrad, thus their functional relationship will be tetradic and represented by the three-dimensional tetrahedron. Figure 1 shows what such a relationship might be:

\[ \text{Figure 1: Knowledge Model} \]

The image here is of all modes being bound like a molecular cluster, which as a unity has the supervenient character of unified knowledge or holistic understanding (just as ‘water’ is the supervenient character of the hydrogen/oxygen molecule).

This, of course, is purely a conceptual model whose purpose is to aid the visualization of research effort. It is simply an artificial construct designed to facilitate better correlation and fusion of that research effort. It only has value to the degree that it is useful. Other quite different models could be constructed, but this model does, from a theoretical perspective, begin to capture the interconnected nature of ‘intelligent’ inquiry. Such inquiry must transcend the wholly positivistic, or wholly relativistic, or wholly intuitive, or wholly rational. This model can be of practical use.

The distinctive characteristic of the tetrahedron is that each node is connected to all others. Thus, each knowledge node has three axes which connect it to the other nodes. If we were to imagine that each axis was an inquiry *continuum*, then we can see that the model...
encapsulates the main epistemological feature identified as desirable by Barbara Herrnstein Smith. One way of visualizing this continuum might be to think of the nodes as inquiry ‘constellations’; as shown, for example, in Figure 2:

Thus, if we consider Figure 1 (and 2), there are six possible axes along which a researcher or research product could be located. However, if it was accepted that each researcher has a favoured mode (there will be exceptions), then that researcher, and their research products, could be represented by ‘values’ along each of the three axes which associate with that mode/node. A particular research product could be identified by an alphanumeric identifier indicating the node and the (three-axis) knowledge ‘mix’. Thus, each specialist’s research output would have some distinctive mapping profile which would mirror the distinctive intelligence profile of the individual researcher. For example, assume that a value along an axis has the range: 1–7, then a particular research product might have the identifier M 5Sp 2E 1Su; which indicates that the research product is primarily concerned with meaning (M) but has a strong stylistic leaning towards the intuitive (Sp), some towards the purely rational (E), but little towards the causal and explanatory (Su). Clearly there are large differences in style and inclination between researchers, as Medawar and Geertz commented. Foucault’s profile, for example, would place him, exceptionally, somewhere around the middle of all six axes. In contrast, Medawar’s ‘tidiers-up’ scientists would be tightly clustered around the Su node.

The model also allows mapping of disciplinary and sub-disciplinary profiles. For
example, the M5Sp2E1Su profile discussed above would fit Romantic history. Alternatively, much local history, for example, might have the profile Su2M1Sp1E. The primary factor, therefore in determining the research inquiry profile is the question being asked, not the disciplinary provenance of the researcher. With the blurring of genres, disciplinary boundaries have increasingly limited value. Trevelyan and Maitland both wrote history, as Foucault did and Quentin Skinner does: however, each has a very different inquiry ‘profile’. Alternatively, Proust’s Remembrance of Things Past and Ricoeur’s Meaning, History, Forgetting, are not unconnected.

Given that there are six axes and seven locations on each axis, there are a large number of profiles possible, but very much fewer than there are researchers and research products. The usefulness of the model’s profiling capability is that it could enable unexpected similarities and complementarities to be revealed across disciplines rather than just within disciplinary domains. For example, the M4Sp point is the same point on the M–Sp axis as the Sp4M point, similarly, M2Sp is the same point as Sp5M, and so on for any axis and any point. It would seem plausible that matches could reasonably be expected to produce fruitful collaborations. Although it is likely that a majority of these interdisciplinary matches would be within the broad nodal groupings, given the vast quantity of research output and numbers of researchers there would also be many matches across the groups. The matching effectively facilitates synthesis of research across disciplines, schools, institutions, and countries. Global profiling is, in the wired automated-search world of the twenty-first century, able to be easily and comprehensively performed. The tracing of keywords, phrases, styles, references, citations etc., in varieties of media is today a basic function of most commerce-, research-, education-, and intelligence-software.

The organization and mechanics of research in the twenty-first century has already evolved to a stage where that organization and practice is quite different from even twenty years earlier. The internet, advances in network and computing software, and the ubiquity of

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personal access to powerful computing hardware have meant that the virtual and physical worlds have merged. The scale of collaborative activity—through, ‘wikis’, ‘crowdsourcing’, and dedicated broadband connections linking universities to test sites (such as the new Large Hadron Collider)—has risen exponentially. The organization and practice of research in physics and the biological sciences, for example, has changed dramatically. In biology, gene data is sourced as much from gene-sequencing synchrotrons as test tubes and detailed reports. Worlds have merged. In the next few years broadband research-nets will be enhanced to ultra-broadband—10,000 times faster than the current speed. There is no question that the nature of research collaboration will change again, and there will be an even greater need to ensure better integration of the multiple disciplinary, sub-disciplinary, and interdisciplinary research outputs.

The fundamental building block remains the individual, individualistic, researcher who reads, thinks, dreams, and discovers, but the ways that researcher connects to sources and the like-minded will change. A ‘stout pair of boots’ will still be needed from time to time, but as much to get away from, rather than get to, information. The place of the university in the research and development process will also change. Organization at a higher level is required of the synthesized ‘pure basic research’. Management of the research and development ‘loop’—pure to strategic to applied and so on—is still needed if the university is to keep ‘moving up the food chain’ and retain its autonomy and independence.127

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127 See Chapter 5.
CHAPTER 5

HISTORY AND RESEARCH MANAGEMENT

The greater our knowledge increases, the greater our ignorance unfolds … the vast stretches of the unknown and the unanswered and the unfinished still far outstrip our collective comprehension … We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone.

—John Fitzgerald Kennedy

We now speak of “context-driven” research, meaning “research carried out in a context of application, arising from the very work of problem solving and not governed by the paradigms of traditional disciplines of knowledge.” It involves multidisciplinary teams brought together for short periods of time, often connected only by means of telecommunications.

—Gouvernement du Québec, Ministère de l’Éducation

A Constellation of Disciplines

In their discussion paper on the future of higher education and university research in Australia, the Vice-Chancellors of eight of the country’s leading research universities noted that the contemporary research university is ‘an adaptive institution evolving in the changing society’, that it ‘cannot live outside the forces of its transformation’, and that ‘its legitimacy depends not on what it has achieved in the past but on what it is becoming and how it can contribute in the future’. They identified several principles on which future higher education policy should rest. One principle was that:

Research universities provide the fundamentals of the basic research system that underpins the creation of new knowledge, the application of existing

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knowledge and the training of highly skilled labour in a global knowledge economy.\textsuperscript{4}

The purpose of higher education, they said, was to ‘enable individuals to learn to the best of their potential’, but it was basic research that underpinned that function. It was likely that their use of the term ‘basic research’, rather than simply ‘research’, was deliberate and meant to distinguish their universities’ research from that in the less prestigious universities.\textsuperscript{5}

The Vice-Chancellors envisaged a ‘top-down’, ‘bottom-up’, process for the development of research areas. Top-down, the areas would be determined by international research performance and national economic, strategic, social and environmental priorities. Bottom-up, areas would be determined by the universities nominating their own areas of research strength, and research areas they wished to advance. In other words, market-place processes. They were drawn to this approach through recognizing that ‘both sides’ of politics at the Federal level were ‘looking more to market mechanisms to shape a responsive and diverse system of high quality and high standards’.\textsuperscript{6} The Vice-Chancellor of the University of Melbourne noted in a later paper that the stability of the American higher education system was due largely to the ‘unbroken history of … a wide range of institutions within both the public and private sectors’, allowing market mechanisms to work. ‘Its [the American higher education system’s] system stability seems worth emulating’, he concluded.\textsuperscript{7}

The future, therefore, for universities, should this vision be embraced, is that they will be faced with exactly the same strategic business decisions as any other large corporation. Within the university, the same planning processes would need to be taken regarding product range (courses) and the range and depth of in-house research needed, first, to support those

\textsuperscript{4} Ibid., 5.
\textsuperscript{5} By international standards, research governance and funding in Australia are highly centralized. Unlike some countries, universities receive little research funding from private industry. Research funding to universities is channelled through the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC). Funding consists of bulk grants based on institutional research quality and impact, and competitive grants and scholarships for individual researchers.
\textsuperscript{6} Group of Eight, \textit{Seizing the Opportunities}, 1.

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products and, second, to create new product possibilities. For universities, for whom pure basic research is a core activity, new product possibilities would mean the creation of new conceptual ‘spaces’. The Vice-Chancellors did not, however, speak in these terms. They did not explore what pure basic research is or what it might mean in the future. The examples they provided: agriculture, bio-molecular sciences, health care delivery, mining engineering, ‘engagement with Asia’, and so on, were framed as socially ‘useful’. In other words, they were more areas of applied research, or development and innovation, than conceptual exploration. Certainly, there was no direct reference to inquiry concerned primarily with epistemological and ontological discovery.

The problem is that as universities strive to make their research relate more closely to social priorities, that desire inevitably means research more related to economic priorities. The more immediately economically valuable the research is, the greater the rewards in terms of funding and resources. The effect, however, as Roger L. Geiger has noted, is that Universities find that insatiable needs and increasing competition constrain their freedom of activity. At times, their involvement with markets appears to threaten the wellspring of knowledge that is the source of their value.8

It is what he calls ‘the paradox of the marketplace’, and it does indeed threaten that ‘wellspring’ of knowledge that is the source of the universities’ value, but only if the university fails to define and manage the subtle differences in the basic research, applied research, development and innovation continuum. It is in the ‘product’ end of the continuum that the marketplace expects performance, not the basic research end. Research at the leading edge of understanding, outside instrumental concerns, is the universities’ distinctive competence and the source of their creative value. In the twenty-first century the generation of advanced, specialized conceptual knowledge remains their distinctive function. It is that competence which determines the uniqueness of their ‘consumer’ products.

There is a related trend in Australia and internationally for academic research to be

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channelled into interdisciplinary research centres and institutes, both to enhance collaboration between disciplines and to provide a more ‘consumer-oriented’ focus to the research being undertaken. Centres and institutes provide a more easily understood ‘face’ to sponsors and other patrons; also, as Roger Geiger notes:

They [the universities] recognize that funding for research has increasingly favoured cross-disciplinary investigations and that departments or schools, left on their own, do little to foster such projects. The general approach has been to encourage the formation of interdisciplinary organizations, particularly by linking them to new appointments.\(^9\)

The future of single disciplines has become directly connected to their success in cross-disciplinary investigation. Inevitably, cross-disciplinary investigation will accentuate the need for the effective integration, at some level, of specialist knowledge. Logically, that can only be at a pan-disciplinary level—at the institutional level—and this task will itself require directed research and development.

If a critical future task for the academy is to determine how more unified inquiry might be accomplished institutionally, then the most pressing task for individual disciplines is to define their distinctive role in the unified basic research enterprise. To do this they need to identify what is the distinctive knowledge they pursue, why its pursuit requires their research skills and what pure basic research means in their field. If this cannot be demonstrated, then that discipline will have no distinctive leading research role in the research community of the future university.

For the history discipline, there is significant work to be done to identify what basic research means for the discipline, and significant work for the university to identify how that research might integrate with other team-based research in the future research enterprise. It is likely, however, that many practitioners would not only question whether they might have any team-based research role to play, but also whether any such thing is possible either practically or theoretically. Some even argue that fragmentation within the discipline is not

\(^9\) Geiger, *Knowledge and Money*, 172.
Only inevitable but positive.

II

At a forum held by the American Historical Review to discuss Peter Novick's That Noble Dream: The Objectivity Question and the Future of the Historical Profession, a wide range of views were recorded on the question raised by Novick of the coherence or incoherence of the discipline. Allan Megill stated that his aim was ‘to point out some broad, and I think little pondered, implications of the account of the American historical profession that Peter Novick [had offered in his book]’. Megill’s focus was the fourth and final part of the book, entitled “Objectivity in Crisis”, in particular, the implications of the chapter titles of that part which were: “The Collapse of Comity”; “Every Group Its Own Historian”; “The Centre Does Not Hold”; and “There Was No King In Israel”. The starting point for Megill’s discussion was his concern that historians had interpreted Novick’s book ‘as portraying a situation that is primarily negative’. And from the nature of the wide discussion that followed the book’s publication, it seemed that that was how it had been interpreted. However, Megill claimed that ‘a careful reading of Novick’s book, does not suggest that he has an apocalyptic view of the current fragmented state of historiography, nor does it suggest that he “laments” that state’. It was the view Megill too, held. He declared:

I find that I am profoundly suspicious of attempts to overcome the fragmentation, of attempts to restore (at some higher or more sophisticated level) the synthesis. Belief in the virtue of synthesis and in the badness of fragmentation seems deeply ingrained within our academic culture and within the culture of professional historians in particular … I find no justification—certainly no articulated justification—for taking “fragmentation” as a dispraising term and “synthesis” as a praising one.

Megill argued that there ‘lies deeply embedded in the professional identity of historians’ a belief in the possibility of “the full story” which can be told once “further

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12 Ibid., 693–4.
research” has been done, and that the notion of objectivity was hidden in this idea that there is a “full story”. However, he argued, once it is accepted that there can be no “grand narrative”, then the only level at which a professional synthesis could be achieved would be at a reflective level. Unity would come, if at all, ‘through sustained attention to the histories, sociologies, and rhetorics of historical study—that is, through examining precisely the diversities that have shadowed historiography from the beginning’. In this respect, works like Novick’s, and those of such writers as ‘R. G. Collingwood, Hayden White, Paul Veyne, and Louis Mink’, would assume an important integrative role. Unfortunately, Megill observed, such work falls ‘into the professionally despised field of historiography or “historiology”’. More importantly, he noted, a consequence of integration at this reflective level is that the character of this integration would be the common recognition by historians of the impossibility of their union. He concluded, therefore, that ‘the deep teaching of Novick’s wise and learned book, it seems to me, is that integration, either substantive or methodological, is impossible, except by force or forgetfulness, and in consequence is not to be desired’. 

It was a bitter-sweet conclusion. Megill started his article declaring there to be no problem, but seemed to end by concluding that there was no solution. The cause of this ambiguity, and the deeper problem, is that Megill failed to define the common epistemological research function professional historians perform in the academy. He failed to define at a fundamental level just what type of knowledge historians produce; just what is behind the questions they are asking. Because he saw only the diverse domains of interest within the profession, he assumed that sub-disciplinary derived knowledge, let-alone interdisciplinary knowledge, is incompatible—he implied that diversity is the only common thread. Consequently, the larger question of how specialist effort might be integrated becomes irrelevant. As an academic historian, Megill is critically aware of the ‘histories, sociologies, and rhetorics of historical study’—and has an incisive understanding of the way

13 Ibid., 695.  
14 Ibid., 697.  
15 Ibid., 698.
the discipline has been shaped. However, while he acknowledges that conceptually all
disciplinary inquiry has a common epistemological purpose, he seems to assume that
disciplinary boundaries are fixed. Thus, he considers ‘the Peircean appeal to “communities
of the competent”’ to be misguided since ‘there is no single competence’. And he argues that
there is a further problem:

An argument deemed acceptable by the consensus of competent historians
may well be deemed unacceptable by the consensus of competent
philosophers or economists—and vice versa. Many historians have in fact
never entered into serious argumentative relation with economists or
philosophers or literary theorists or rhetoricians, for such relations are not in
general given professional reward. Hence they do not know how
multifarious is competence.  

This may well be a common view. But Megill emphasizes that this is not to argue for
interdisciplinary unification since, he says, his own experience of arguing with practitioners
of other disciplines has indicated that the different modes of argument are too incompatible
‘for any one person to practice them at the same time’.

It is a telling comment and illuminates the underlying assumption that drives his
argument. In this view it is the individual practitioner who must draw together all the threads
and do the synthesizing; which means that even cooperation at an interdisciplinary level is as
impractical as interdisciplinary unification. The assumption he makes comes from accepting
without question the time-honoured notion of the professional historian as lonely craftsman—
that the historian’s output will necessarily be the traditional, individually hand-crafted,
product.

Thus Megill has unfortunately discarded what is now an important consideration for the
discipline going forward, the methodology of interdisciplinary cooperation. Consequently, he
has impeded progress towards removing the two obstacles that face the advancement of
understanding. The first obstacle is philosophical: that there are no foundational or self-
sufficient disciplinary ‘knowledges’, rather, disciplinary endeavour can only be part of an

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16 Ibid., 695.
historically situated human and ‘human’ search for knowledge and meaning. As *homo-sapiens* we seek intuitively, and as ‘humans’ we seek culturally, to know our experiential world as fully as possible. Disciplinary boundaries are markers inside that wider frame. The second obstacle is practical: given the interconnected nature of knowledge, how can specialist knowledge meaningfully be integrated so that more unified knowledge can be acquired? How is that acquisition to be managed? Megill seems to accept the multifariousness of knowledge but, because he assumes that the individual is the only possible conduit and source of the final product, sees anything other than discipline-specific knowledge to be impossible. But even accepting the limiting case that he outlines, Megill would be unlikely to deny that disciplinary knowledge in the academy is still part of a broader academic dialectic. He would be unlikely to deny that any exploration at the boundary of disciplinary knowledge—whether that boundary marks the limits of the discipline’s theoretical frame, or the limits of the discipline’s traditional domain of interest—will necessarily impinge or encroach into another discipline’s area, or several disciplines’ areas. Interconnection rather than separation of disciplinary threads is the norm in any explanation of real events—an observation which, if not beyond dispute, is close to being so. Thus, again, the real issue is how to integrate disciplinary research.

III

There is a distinct difference, however, between connected knowledge and integrated research. Cross-disciplinary discussion stimulates fresh disciplinary research, but the products of that research remain single-disciplinary. Cross-disciplinary discussion has long been common in the university, but until recently research has remained distinctly disciplinary. In the 1960s, (Sir) Michael Postan had described cross-disciplinary activity as ‘usefully invad[ing] each other’s preserves’ in order to ‘enrich their stock of topics and interests.’ Historians since the early nineteenth century, he argued, had formed themselves into ‘marauding bands—the so called ‘historical schools’ of jurisprudence, politics and economics—with the avowed object of annexing the neighbouring fields of political and social science’. He noted also that the ‘reciprocal incursions from theory to history’ were
even older; and each time ‘masses of intellectual ammunition’ was left behind which
‘historians still go on firing’.  

Earlier, in 1944, Keith Hancock, like Postan, had remarked on the effect of cross-
disciplinary knowledge on disciplinary output. In his inaugural lecture as Chichele Professor
of Economic History at the University of Oxford, Hancock used as his theme ‘quality of
span’. By ‘quality of span’ he meant the ability to think across disciplinary borders.  

Span, he later wrote, was ‘an awareness of background … a consciousness of the relation of
things’. Hancock in his lecture remarked on his admiration for his predecessor G. N.
Clark’s ‘span of mind which comprehended at the same time the science of a great age and its
technology, its political arithmetic and its philosophy’. Clark, Hancock felt, ‘was well
equipped to lead an attack which surely is long overdue, an attack against the segregation of
minds, which today is the besetting danger of University life in Great Britain’. In the
lecture, Hancock spoke approvingly of Alfred Marshall who in order ‘to explain the
economic leadership of England … invoked technology, science, education, politics, morals,
religion (“the Puritan strain”), and national temperament (“the sturdy Norse character” of
Englishmen’). Hancock noted that historians may have felt that Marshall ‘used some of
these categories a trifle indiscriminately’, but observed that they would approve Marshall’s
interpretations less had they been the product of economic theory alone.

Alfred Marshall was one of the most influential economists of his time, but it is not just
the breadth of an explanation which can, as with Marshall, ensure a work’s credibility and
wider relevance. As Maitland’s work has shown, it can also be the depth of a question.
Maitland, a contemporary of Marshall, always wrestled with specific and highly technical
problems related to the history of English law, but the value of his work extended well

17 M. M. Postan, “Fact and Relevance in Historical Study”, Historical Studies, 13, no. 51. (Oct.,
18 W. K. Hancock, Politics in Pitcairn and Other Essays (London: Macmillan & Co., 1947),
158. He defines the term more fully in his essay ‘A Note on Mary Kingsley’, in Politics in Pitcairn
and Other Essays.
20 Hancock, Politics in Pitcairn and Other Essays, 157–58.
21 Ibid., 161.
beyond his narrow technical field of medieval English law. This value was due not so much to the technical quality of his scholarship, though that was impeccable, but to the epistemology behind the questions he asked. For Maitland, ‘justice’ is a psychological and cultural category, not a legal one. For him, to study the history of law was to study the evolution of social thought—society was defined by its legal concepts. Legal history was the means to this deeper knowledge, since, as he had commented: ‘speaking broadly, we may say that only in legal documents and under legal forms are the social and economic arrangements of remote times made visible to us’. Michael Bentley notes that Helen Cam, who had collected some of Maitland’s papers for publication, considered it ‘lamentable’ that later observers persisted in their view that Maitland was just a ‘constitutional historian’.

Because the core of Maitland’s research questions was not narrowly technical, the results of his research, though apparently technical, had much broader relevance and impact. Eighty years after The History of English Law Before the Time of Edward I was published, Alan Macfarlane, a social historian who had also trained as an anthropologist, was struggling with what he saw as problems with the orthodox picture of the nature of ‘traditional’ English society up to the fifteenth century. MacFarlane said he was ‘dissatisfied with the general framework within which I was working, but did not know why, or where I should look for an alternative model’. Significantly, it was a remark of Maitland’s that enabled Macfarlane to recontextualise English ‘peasant’ society. Maitland had described the highly developed property rights of women in that early English society, and had remarked that England ‘long

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24 Helen Cam ed., Historical Essays, ix, quoted in Michael Bentley, Modernizing England’s Past, 124. However, Bentley also notes (126) that R. H. Tawney was ‘relentless in his pursuit of the legal mind as an obstacle to real economic history,’ especially to the ‘entire question of land utilization (as opposed to questions of title).’ But Bentley later notes that other economic historians had emphasized how important, because of the practice of letting and sub-letting, knowledge of title was to questions of tenure and usage.


ago’ had chosen her ‘individualistic path’. That comment was the catalyst. Macfarlane determined that ‘individualism’ was the point of difference in early English society. It was that society’s defining element. His hypothesis contradicted the standard picture of peasant society which historians had long used.28

Macfarlane’s hypothesis was that England had never had a peasantry in the conceptual sense of the word, that

the majority of ordinary people in England from at least the thirteenth century were rampant individualists, highly mobile both geographically and socially, economically ‘rational’, market-oriented and acquisitive, ego-centred in kinship and social life.29

Thus, he implied, English society has always been different, hence European-inspired social models could provide little understanding of it. He rejected the idea ‘that at some time England experienced a period of decisive change, breaking not only with the rest of Europe but with its own past as well’.30 He continued with the very expansive remark that ‘perhaps this is no surprise, for it would make them very like their descendants whom we are beginning to find out were like this three centuries later’.31 But by reasoning in this way, MacFarlane was ignoring the fluidity of the relationship between agency and structure that informed Maitland’s work. As Joyce Appleby has observed, apart from severely limiting interpretive options, there ‘lurks, unexorcized’ beneath MacFarlane’s claim, ‘the sociological assumption that the form of society dictates events. Instead of seeing men and women [as] selectively coping with concrete and changing events’. MacFarlane had placed his individuals in a ‘cultural holding pattern for six hundred years’, Appleby remarked.32

Although her remarks were directed at Macfarlane’s thesis, and written more than

twenty-five years ago, Appleby went on to identify what is still the central problem with specialist inquiry: ‘Important as they are, Macfarlane’s facts about mobility, marriage, kinship, and land sales cannot serve as surrogates for the dozens of other relevant variables. Indeed, the more he argues for the persistence of certain social arrangements, the less they can explain England’s remarkable economic career’.33 England did indeed undergo a dramatic economic transformation which MacFarlane’s thesis cannot explain. Nevertheless, Macfarlane’s research made a valuable contribution to wider cross-disciplinary inquiry and, as Geoffrey Elton observed, ‘it was Maitland who helped him there’.34 Appleby observed that despite the ‘major professional donnybrook’ that Macfarlane’s book would cause, she could imagine ‘dozens of blue pencils quietly excising the word “peasant” from manuscripts right now’.35

IV

The Macfarlane example reinforces the obvious point that the interrelationship and interconnections between structure, agency, continuity and change, are so complex and dynamic that single disciplinary research can never illuminate anything other than limited and specific disciplinary questions. If wider insight into the physical–psychological–cultural network are to be achieved, then wider input is needed. However, ‘wider input’ means wider selection of specialist input since, logically, the knowledge to be aggregated is specialist knowledge. But the aggregation of specialist knowledge cannot be at the level of the individual specialist; it can only be at a higher level. Consequently, and contrary to Megill’s view, if wider explanations are to be achieved then ways must be found to aggregate knowledge and then synthesize it. Almost from their inception, the humanities in the academy have developed institutional practices that ensure a certain level of disciplinary cross-fertilization, but not the synthesis of aggregated knowledge. How this might be achieved is not a question which the individual disciplines within the humanities consider, nor do their institutions. The establishment of centres and institutes are a gesture towards

33 Ibid., 1047.
synthesis, but as Robert Geiger implied, they are more concerned with organizational questions than theoretical and methodological ones. Co-location, or cross-disciplinary discussion do not by themselves produce synthesized or aggregated research output. Conceptual frameworks and methodological processes are required if specialist knowledge is to be first aggregated and then synthesized. Without them, all that is achieved is the accumulation of enhanced specialist knowledge; a result which is illustrated by Keith Hancock’s experience in the formation and operation of the Research School of Social Sciences, Australian National University.

Hancock, in the role of academic advisor to the Interim Council formed to implement the establishment of the Australian National University, had set out his own ideas for more formalized research-school arrangements that would facilitate the ‘reciprocity’ Postan had described. But Hancock’s emphasis was on the evolution of shared interests through scholars working alongside one another in the appropriate intellectual environment, not joint research. Imposed collaborative research was something he actively opposed—though he was aware, as he said, that without strong leadership at the institutional level, ‘separate competing specialisms’ ran the risk of becoming just a ‘rabble of individualists’.36

Hancock’s view was that planning in such situations meant not the imposition of a design, but a plan which would bring to fruition a design implicit in the ‘healthy growth’ of intellectual endeavour.37 When outlining his ideas on the structure of the new social sciences research school to the Interim Council, Hancock specifically avoided the term ‘departments’, which implied rigidity and segregation, and instead used the term: ‘growing points’. He identified the ‘growing points’ as: Economics, Statistics, Population and Health Studies, Law, Political Science, Social Anthropology, Psychology, History and Philosophy, Sociology, and Geography.38 Philosophy was to have the special role of ‘gadfly work’, by which he meant

36 Quoted in S. G. Foster and Margaret M. Varghese, *The Making of the Australian National University* (St. Leonards: Allen & Unwin, 1996), 50. The source was not referenced specifically, but was from correspondence with Sir Frederic Eggleston and made after Hancock’s resignation from the advisory committee in April 1949.
38 In a letter to H. C. Coombs (a member of the Interim Council). Hancock to Coombs 31
that philosophers would force methodological questions to be addressed and perspective to be maintained. This perhaps indicated that he did not think of philosophy itself as a research discipline in the sense of discovery of new knowledge. Nevertheless, Hancock considered philosophical expertise essential input since, as he explained later,

It was almost impossible for our economists, political scientists, demographers and lawyers to see their problems in shallow perspective when almost every day they were exchanging ideas with two such competent philosophers as P. H. Partridge and J. A. Passmore.39

Thus he had concluded that ‘the advancement of knowledge will be achieved in the process of questioning, answering and debating’.40 The centre of action, however, was the individual; the individual was made more productive by working within a stimulating and congenial environment. Outstanding researchers were the foundation. The whole was not larger than the parts, the parts were the whole; the process was there to make the parts better.

Nor is it clear from his operational description how Hancock saw the advancement of knowledge as differing from the accumulation of knowledge: whether new knowledge was always outside current understanding, or whether it was always within established cultural understanding. He had written how ‘master-craftsmen’ such as Marc Bloch ‘illuminate’ the meaning of ‘perspective’,41 and had quoted with approval Marc Bloch’s definition of history as ‘essentially a progressive movement of the human intelligence’,42 but it was more the refinement of socialised knowledge rather than the exploration of knowledge’s limits which was Hancock’s goal. Yet it was Bloch’s conceptual originality which was his distinctive contribution to research, not his craftsmanship. Hancock was ambivalent about the usefulness of theory to the historian. He felt that ‘sound technique’—by which he meant ‘amongst other things, rigorous precision’—was the essential element for the historian, not theory. His view was that theory had its place: but only in that it could be ‘useful’ in the

March 1947, quoted in S. G. Foster and Margaret M. Varghese, The Making of the Australian National University, 39.

39 Hancock, Professing History, 43.
40 Ibid., 12.
41 W. K. Hancock, Perspective in History (Canberra: The Australian National University, 1982), vii.
42 Hancock, Professing History, 12.
quest to ‘combine precision with span’. He conceded that, as a tool, it was needed for certain data, but in his opinion, to say ‘no theory, no history’ (as he quoted the economic historian Werner Sombart as saying) was ‘true sometimes, but not always’. Hancock considered a more appropriate axiom to be: ‘No imagination, no history’.43

But in proposing this alternative, Hancock was either rejecting or avoiding Sombart’s point that ‘theory’ was, unavoidably, the conceptual framework which determined the form any interpretation or ordering of data was to take. Hancock, in contrast, was denoting theory as a tool to aid description, not as a conceptual frame that preceded explanation. For Sombart, economic history and sociology were simply the means by which social and cultural phenomena could be probed to establish deeper theoretical insight. The rationale for Sombart’s work on the history of bourgeois society was to progress questions of social theory. He successfully advanced theoretical knowledge in his fields of study. For example, there seems little doubt that his large study, Modern Capitalism (1902), stimulated and challenged Max Weber;44 (it was probably more important for Weber, some argue, than he admitted when explaining The Protestant Ethic and the Spirit of Capitalism).45 And Sombart’s conclusions regarding the importance of the evolution of honouring contracts to bourgeois morality strongly influenced Max Horkheimer’s thinking on the relationship between collective interest and individual consciousness. Those ideas shaped Horkheimer’s later studies, and Horkheimer’s studies were influential in shaping twentieth-century critical theory.46 The fact that the work of Sombart, Weber and Horkheimer was outside orthodoxy, was the reason it was so influential.

Hancock’s approach to the organization of research and the role of theory in it—

43 Ibid., 20–21. The Sombart quote was used also in “Machiavelli in Modern Dress: An Inquiry into Historical Method”, in Hancock, Politics in Pitcairn and Other Essays, 22; and in “Ordeal by Thesis”, in Hancock, Perspective in History, 13.
45 Friedrich Wilhelm Graf, “The German Theological Sources and Protestant Church Politics”, in Weber’s Protestant Ethic, 32.
46 See Peter M. R. Stirk, Max Horkheimer: A New Interpretation (Hemel Hempstead: Harvester Wheatsheaf, 1992), 22, 224n. Stirk was referring to Sombart’s Der Bourgeois. Zur Geistesgeschichte der Modernen Wirtschaftsmenschen (Munich and Leipzig: Duncker and Humboldt, 1923).
research to be personality driven and theory to be peripheral—might have reflected Oxford history school orthodoxy, and might have produced scholarly material of high academic quality, but it did not necessarily produce knowledge that was valued by the wider community. Sir Frederic Eggleston, a member of the Australian National University Interim Council, was one who was critical both of Hancock’s approach and of the concept of the humanities as a loose group of independent studies which British universities such as Hancock’s Oxford encouraged.\(^{47}\) He was concerned that Hancock’s proposal could result in energies being dissipated and the ‘fundamental problems of the subject [social science]’ being neglected. Eggleston, like Hancock, wanted the Research School of Social Sciences to function as an interdisciplinary, cooperative research centre (‘my dream’, he said). But as an experienced politician and diplomat, and as one deeply concerned with social philosophy, Eggleston was uninterested in inquiry as simply single-discipline inquiry. He was unequivocal that the school should be concerned with ‘fundamental social truths’, and with strengthening understanding of the intrinsic unity of the social sciences. These ideas were articulated in his book: *Search for a Social Philosophy* and were stimulated by the ideas of, in particular, Bergson, Whitehead, Ruth Benedict, and J. C. Smuts. Eggleston was particularly drawn to Smuts’s rejection (explained in Smuts’s *Holism and Evolution*) of narrow Cartesian dualism and its replacement with an ‘holistic’ evolutionary process where physical phenomena and human personality are part of one indivisible set of interacting force-fields.\(^{48}\) Atoms, cells, mind, and personality were the product of evolutionary continuity. For Smuts, personality was the supreme ideal of evolution, but for Eggleston the social entity, not individual personality, was the ideal. In *Search for a Social Philosophy*, Smuts’s fields of force are recast as ‘patterns’, but Eggleston remained strongly drawn to Smuts’s vision. Eggleston had also read Karl Mannheim with great interest and approval; he sent Max Crawford an early draft of *Search for a Social Philosophy* for review.\(^{49}\)

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\(^{47}\) See S. G. Foster and Margaret M. Varghese, *The Making of the Australian National University*, 49.

\(^{48}\) *Holism and Evolution* was published in 1926. The title of vol. 2 of Hancock’s biography of Smuts is *Smuts: The Fields of Force*. Smuts’s philosophy and *Holism and Evolution* is discussed at some length in W. K. Hancock, *Smuts: The Fields of Force 1919–1950* (Cambridge: Cambridge University Press, 1968), 176–97.

\(^{49}\) Eggleston also acknowledged a debt to Maitland. Eggleston’s book was written around three
Eggleston sought integrated knowledge. In *Search for a Social Philosophy*, he had written: ‘It is a curious and … an anomalous feature in the history of thought, that the social sciences have developed in separate compartments with little attention to the obvious relations they bear one to another’.\textsuperscript{50} He was clear that this was not what he wanted from the research school:

> We want economists who are aware that their main decisions are political in character; political scientists who understand how dependent they are on law, and lawyers who understand how the law must give substance to political concepts; historians capable of showing how institutions work; and a philosophy which shows how knowledge and thought are articulated in institutions and conduct.\textsuperscript{51}

And he was quite clear what, for him, advancement of knowledge meant: ‘I suggest that, in the social sciences, it is not the extension of knowledge but the intensification of knowledge—the revelation of meaning—that is needed [italics added]’. In economics, for example, he said it was the ‘nature of economic thought’ and the ‘springs of economic action’ that were to be understood, if society was to advance, since ‘all of the economic problems which face us today raise fundamental social issues’.\textsuperscript{52} Although basic research was in his view essential, he also held that if the advancement of knowledge was not linked to pragmatic social action, then it was useless. Hancock, in a letter to Mills, which Eggleston had read, had described himself ‘more of a social artist than a social scientist—or possibly I should call myself a craftsman … I venture into all fields, but I am not a master of them … I have shied way from the “ologies”’.\textsuperscript{53} Eggleston’s comment on this was:

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\textsuperscript{50} Eggleston, *Search for a Social Philosophy*, 15.

\textsuperscript{51} S. G. Foster and Margaret M. Varghese, *The Making of the Australian National University*, 49.


The most remarkable feature of present-day thought is the terrific problems we have to face and the fact that we have no answers. Professor Hancock says he disregarded ‘onomies long ago but they did not disregard us, and the air is full of clamant ideologies. The man in the street is not aware of the fact but all his claims touch upon fundamental social principles. What has the academic world done to meet them in the last forty years? 54

Eggleston held Hancock in high regard, but did not consider him indispensable to the accomplishment of the Council’s goals. He advised Sir Douglas Copland, the first Vice-Chancellor, accordingly. In 1949 Hancock resigned his position as Academic Advisor. 55

The strong view which Eggleston held regarding research—that the purpose of the advancement of knowledge was not simply the enlargement of knowledge of the world, but also the improvement of society—was the same philosophy that drove Horkheimer, Adorno and others in the Institute for Social Research in Frankfurt. The function of a research school of social sciences in this view was to mediate effectively between practical and theoretical inquiry. What was missing from Eggleston’s thinking, though, was any clear research model whereby pure basic research, strategic basic research, applied research, and experimental development (social improvement in this case) could be separately identified and managed, but remained connected and interactive. But in this regard, in the humanities and social sciences, no-one else, either, had thought about such a model. Keith Hancock had a clear idea of how a research school should be run, but that idea was not based on either an integrated research model or an integrated knowledge model. Consequently, efforts at combining specialist research were never particularly successful. Those efforts demonstrated why models of some form were needed.

In 1957 Hancock accepted the positions of Director of the Research School of Social Sciences and Professor of History, roles which he was to discharge with distinction until 1961 and 1965 respectively. However, his research management philosophy and his theoretical approach to disciplinary research remained unchanged from that articulated to the Interim

54 Osmond, Frederic Eggleston: An Intellectual in Australian Politics, 268.
55 Hancock describes in Country and Calling [243] the meeting with Copland, in London, which led to his resignation.
Council. Find ‘good men’ from whom ‘good work’ could be relied upon to flow, identify growing points around which this work could be focused, and build a few bridges between disciplines and between specialists. There is nothing wrong with this philosophy if it is understood to be subordinate to the accomplishment of, or at least progress towards, defined objectives and purpose. Some integrating rationale is required, though, if it is to result in anything more than individual works from a talented collective. Without specific theoretical guidance or direction to individual research, accumulation of knowledge rather than its intensification can be the only possible outcome at the institutional level. This is not to say that the cooperative effort which produced the Australian Dictionary of Biography was of limited value. The dictionary was and is an invaluable aid to Australian historical scholarship, but it is not new knowledge in the theoretical sense, in the way that, say, the critical theory which emerged through cooperative effort from the Institute for Social Research, was new knowledge. With Hancock, there seemed to be an assumption that whatever was produced would have value. His Oxonian sense of unassailable legitimacy seemed to cause him to accept without question the soundness of the view that the scholarship of ‘good men’ justified itself. In this view, in the hands of a scholar all work is of value. And as he said:

Even a pedestrian inquiry has value when it is pursued carefully and fairly-mindedly; to get the record right, so far as the evidence allows, is not only a mental but also a moral achievement. Precision and honesty, by which our civilization stands or falls, are not to be despised even in small topics of research [since] small topics may reflect large issues.56

But that presupposes that what ‘large’ means is known and agreed. In the context above in which Hancock used the word, he simply meant issues that were interdisciplinary and not, in his words, ‘cellular’ (within the discipline). The function of ‘large’ issues, he explained, was simply to extend the ‘horizon of opportunities’ for the individual researcher. And one method of ‘extending the horizon’, he said, ‘is the interdisciplinary seminar, in which people whose techniques are diverse, mobilize them in a combined attack upon some common problem’.

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56 Hancock, *Perspective in History*, 12.
The ‘common problem’, he said, ‘may be industries (e.g. the wool industry) or regional (e.g. Buganda) or sociological (e.g. urbanization)’. If the attack was ‘mounted at the post-doctoral level’, then the ‘clear intention [was to] advance knowledge’. Hancock put this theory into practice in a Wool Seminar which was held in Canberra between 1957 and 1959. The ‘wool seminar’, he submitted, with its focus the ‘common problem’ of the wool industry, ‘reveal[ed] the work done’ at this ‘higher level’. The seminar resulted in a book—*The Simple Fleece*—of ‘40 closely related chapters’ most of which came from the thirty-six papers which had been presented over the seminar’s two-and-a-half year duration. Hancock claimed that one positive outcome for the ‘natural scientists’ and social scientists who participated in the seminar, was that they ‘discovered ways and means of communicating with each other and they learnt a good deal about each other’s methods of research’. He particularly wished to prevent the seminar ‘becoming merely an aggregate of specialists’.

But did the seminar advance knowledge? Did it justify its cost? How intellectually valuable was the result of the very considerable time and effort put into it by the large number of highly qualified and capable participants? Did learning about ‘each other’s methods of research’ mean looking into the epistemological and ontological questions regarding the nature of scientific knowledge versus the nature of social science and humanities knowledge? If not, what was it that they learnt? None of the individual chapters in *The Simple Fleece* indicate any evidence of intellectual synthesis, though this lack of synthesis could be expected since the chapters comprise what were intended to be special studies for a planned Volume II. Volume I was to provide an overview, which would illuminate the central theme which had emerged, to link and enlarge the disciplinary studies. It was never written and thus the collection of special studies became the complete book.

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57 Ibid., 12.
58 Ibid., 12.
59 Ibid., 12.
60 From a paper circulated by Hancock during the planning phase: ‘First very rough proposals for seminar on Wool (from 1850 to the present day)’, Barnard MSS, 250, Box 1, Noel Butlin Archives Centre, Canberra, quoted in Geoffrey Bolton, “Rediscovering Australia: Hancock and the Wool Seminar” in *Keith Hancock: The Legacies of an Historian*, ed. D. A. Low (Carlton South: Melbourne University Press, 2001), 187.
After publication, *The Simple Fleece* quietly sank from view. *Historical Studies* and the *Journal of the Royal Australian Historical Society* ignored its appearance, and the *Australian Journal of Politics and History* gave a short notice of five lines. Geoffrey Bolton noted that a ‘thoughtful review’ by an economic historian, J. W. McCarty, in *Business Archives and History* ‘concentrated most on the chapters influenced by “the Butlin revolution”’. However, John La Nauze had commented that ‘If Butlin [an economic historian] were asked to write about religion in Australia he would produce a column of figures headed “Churches–Capital Formation”’. Certainly, the book provided no cultural perspectives. Another reviewer commended the book as a useful work of reference but noted that a few sections of the book had already become out of date.

The Wool Seminar demonstrated quite clearly that the production of synthesized knowledge requires much more than simple faith in the efficacy of ‘the ‘healthy growth’ of intellectual endeavour’ within an interdisciplinary environment. The integration and synthesis of specialist effort into complex wholes requires more than debate amongst specialists. Hancock had made it clear that he understood that without effective management ‘separate competing specialisms’ ran the risk of becoming just a ‘rabble of individualists’. But he did not to know what that management required. He argued that it would be ‘almost impossible’ for the disciplinary specialists to ‘see their problems in shallow perspective when almost every day they were exchanging ideas with … competent philosophers’. But that was just what did happen. The problem to be investigated by the multidisciplinary group was never defined. Rather than identify what was a problem that transcended individual specialist inquiry and required combined, advanced, research skills, Hancock merely identified an entry point to a yet-to-be-defined problem. He confused ‘problem’ with signification. The wool industry was so central to Australian life that it meant something to all Australians. Thus as a

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62 Ibid., 195, no reference given.
63 Libby Robin noted the book gave a ‘powerful, rounded portrait of the Australian wool industry in late-1950s Australia’, but observed that it gave ‘surprisingly few cultural insights into the ‘rediscovering Australia’ process which Hancock sought. Libby Robin, “Woolly Identities”, in *Keith Hancock: The Legacies of an Historian*, 201.
theme or signifier it had value, but in itself it was not a ‘problem’. Hancock himself thought of it semiotically rather than problematically. In his paper framing the seminar, Hancock identified as the unifying principle: what ‘wool can mean [italics added]’—and then listed the sorts of things it might mean to economists, scientists, social historians. Thus, such things as ‘the labour force and its organization’ for the economists, ‘land utilization (including technology)’ for the agricultural economists, geographers, and social historians, ‘ecological change in general’ for ‘some brands of Natural scientist’. Inevitably the product, *The Simple Fleece*, simply provided more information within a narrowly scientific and economic instrumentalist frame. The history that was written was highly competent, but orthodox and uni-disciplinary; it showed no evidence at all of any altered perspective. The one new perspective that did result from the seminar was a greater sensitivity to ecology; however, this occurred more indirectly than directly, more through good luck than good management.

Sir Frederic Eggleston, talented amateur though he might have been, perceived more acutely than Hancock that a research school within an institute of advanced study needed to intensify knowledge, not simply extend information. Eggleston sensed that the intensification of knowledge involved, among other things, research into the sociology of knowledge and the identification of *fundamental* objects of study. He sensed that it was inextricably shaped by theory—no less in the humanities and the social sciences than in the physical and medical sciences—and that the need was for more holistic knowledge. But how research was to be organized to accomplish this ‘whole of knowledge’ inquiry, Eggleston had no idea. Neither did anyone within the academy. There were no academic models, either in Australia or overseas, that could be used because research management remained concerned with the individual and the individually crafted product. How specialist knowledge might be

65 Ibid., 185–6.
66 Hancock would disagree. In his Foreword to the book he states ‘Our discussions covered a range of themes: economists found themselves concerned with animal genetics and nutrition, ecologists and botanists with the historical processes involved in changing patterns of land utilization, and historians with the scientific and economic principles of pasture improvement.’ Hancock, *The Simple Fleece*, vol. V. It is not obvious in the chapters. For example, A. W. Martin’s chapter: “Pastoralists in the Legislative Assembly of New South Wales, 1870–1890”, is a standard political history written from a very orthodox perspective. The scientific chapters appear to be completely shaped by scientific questions, and their conclusions exactly directed to those questions.
aggregated so that a more intensified and complex whole could be achieved had not been considered because it had not emerged as a requirement.

The requirement had emerged elsewhere. By the end of World War II, governments everywhere had recognized the direct connection between research and development and national security and thus, the need to for their effective integration.

Within the military-industrial ‘complex’ that had emerged after World War II, particularly in America, there was recognized the need to combine effectively the research and development efforts of the many thousands of government, university, and industry scientists and engineers into major defense and aerospace projects. The intensification of the Cold War during the 1950s, and the successful launch and orbiting of the first Soviet Sputnik in 1957, provided a further strengthening of that requirement. The space program, the intercontinental ballistic missile program, the strategic air defence program, and the Polaris submarine program that followed, all required basic research, applied research, development, and production to be managed as an integrated whole if those wholly new and highly complex systems were to perform as intended. By the early 1970s conceptual frameworks and control and analysis processes had been defined which enabled the successful acquisition of conceptually unique land, sea, air, and space systems from combined but disparate research, development, and production groups. Using these frameworks and processes, the US Department of Defense (US DoD) and the US National Aeronautics and Space Administration (NASA) were able to combine specialist research with innovative, multi-disciplinary, engineering development to produce complex, integrated, systems. The frameworks and processes themselves required new conceptual thinking. Traditional management approaches were inadequate. A key feature of the framework was that it maintained a ‘pluralist’ system of institutions and organizations (universities, companies and government agencies) and enabled productive interaction between ‘frontier’ research and mission-directed development. 68

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67 As had been demonstrated in the Manhattan Project. Research and national security were now considered inseparable.

68 See for example, Karl Kreilkamp, “Towards a Theory of Science Policy”, Science Studies, 3,
Today, the pan-disciplinary solutions that are now being sought by governments and research authorities in response to new national and global problems, from bio-ethics to global warming, for example, require the same type of conceptual management that is needed to acquire solutions for such problems as landing men on Mars, or providing defence in space against intercontinental ballistic missiles. Significantly, that management does not seek to manage pure basic research, it seeks only to manage the experimental development of the engineered systems. The clear differences between undirected research and mission-directed development are institutionalized in those management processes. It was from the early military-industrial experience that the different research and development categories were drawn and formalized in the Frascati Manual.

**Integrating Specialist Knowledge**

Malcolm Gillies, at the time the president of the Council for the Humanities, Arts and the Social Sciences (CHASS), noted recently that ‘the world’s problems have scant respect for disciplines or knowledge sectors’, but observed the inconvenient fact that ‘most people feel secure within the narrow confines and well-trodden paths of their own upbringing … the disciplines remain powerful units of organization’. Gillies was introducing a CHASS occasional paper on the issue of pan-disciplinary collaboration, and went on to say that: ‘Similarly, the broad sectors of knowledge—science, technology, engineering and medicine (STEM) and the humanities, arts and social sciences (HASS)—provide time-honoured yet segregated playgrounds for discovery and interpretation’. This situation, he argued, was unsatisfactory. The Government was also keen to facilitate greater involvement of the creative industries in STEM research programs. Consequently, in December 2005 CHASS had been commissioned by the Government to examine and report on the relationship

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69 For example, PMSEIC (Prime Minister’s Science, Engineering and Innovation Council) Working Group, *Imagine Australia: The Role of Creativity in the Innovative Economy* (Canberra: PMSEIC, 2005).
between these sectors. Gillies stated the research focus:

These sectors uphold different economies and promote different methodologies. Our biggest challenge is to find ways in which these sectors can collaborate better and turn their differences of perspective into pan-disciplinary strengths.70

The completed CHASS report called for ‘a ‘whole of knowledge’ approach, embracing both the humanities, arts and social sciences disciplines and those of science, technology, engineering and medicine, to address the ‘whole of Government’ research priorities’.71

The report identified what it judged to be the characteristics of successful ‘cross-sectoral collaborations’ and also examined the reasons why some collaborations fail. However, the characteristics and reasons that it identified described the environment in which collaboration should occur. It said nothing about the processes and frameworks by which that collaboration could be managed. It identified management success factors, but not management processes. A positive environment is a necessary condition for a collaborative project to succeed, but it is not a sufficient condition. Effective management of both the overall collaborative program, as well as the individual collaborative projects themselves, is required. This was the aspect that NASA and US Defense recognized was conceptually complex. Yet on this the CHASS paper was silent. It said nothing about how integrated disciplinary knowledge was to be managed. It did not identify different research and development categories, nor did it consider how research output can be synthesized into a product that could be used by Government to solve or ameliorate practical problems. Yet a research product requires translation if it is to be useful to non-research ends. Research that cannot be implemented is useless to government: it has no value. Research needs to be converted through some form of development process before it can used by non-specialists in actual social, political, and economic environments. Conversely, experience in the defence and aerospace industries showed that the stimulus for the most interesting basic research is

70 Jenni Metcalfe, et. al., CHASS Occasional Papers; Collaborating Across the Sectors: The Relationships between the Humanities, Arts and Social Sciences (HASS) and Science, Technology, Engineering and Medicine (STEM) Sectors, November 2006 (Canberra: Council for Humanities, Arts and Social Sciences (CHASS), 2006), 3.

71 Ibid., 7.
the problems associated with the practical application of complex solutions. The relationship between research and its application is symbiotic.

II

NASA and US Defense had recognized quickly, through failure, that there were two quite distinct aspects to the successful management of complex acquisitions. The first was the need for an acquisition management process that enabled effective management decisions to be made at the program level. The second was the need for a technical problem-solving and control process—a systems engineering process—that enabled customer requirements to be translated into desired functionality and that functionality reflected in a system design that could be broken down into specialist design elements. Research was only incorporated into the process as a sub-element of the development of new subsystem elements by subsystem specialists or as commissioned applied research linked to particular program problems. The agencies had found that mission-directed research was the most cost-effective way to support basic research even though the lead times were long, but they did not seek to control research.  

The central feature of the program management process was the definition of the logical phases of any development program whose purpose was to acquire effective solutions to new problems. The phases were designated as: ‘concept exploration’, ‘demonstration/validation’, ‘full-scale development’, ‘production’, and ‘operation’. By separating the program into distinct phases (the conceptual derivation of a solution, the engineering development of that solution, and the production of the developed prototype), each phase could be managed separately as distinct projects should the complexity and size of the program require it. Thus, for example, concept exploration could be undertaken as a separate project. If considered desirable, several conceptual studies by different groups could

72 During 1967–9, the US DoD undertook a retrospective review (‘Project Hindsight’) of the effectiveness of research funding to the acquisition of weapons systems. The review found that it took approximately nine years for ‘directed basic research’ (sic) to emerge in key weapons systems, and approximately twenty years for ‘undirected basic research’ (sic) to emerge. Office of the Director of Defense Research and Engineering, Project Hindsight: Final Report (Washington: US DoD, 1969), iii–iv.  

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be commissioned so that alternative solutions could be explored. Then, say, two of the most promising concepts might be selected for detailed analysis and validation; then the best one or two could be selected for full-scale development at the end of which a working prototype—which could be anything from a new electronic product to a space shuttle or more—would have been produced and could be evaluated in a full operational environment. If the operational testing was satisfactory, then approval could be granted for full production of the required number of operational units. In the case of aircraft or electronic systems, hundreds, or even thousands, might be produced; in the case of systems like the space shuttle, just a few. Contractors such as Lockheed Martin or Boeing, for example, would participate in some or all of the phases of a program.

Since the acquisition management methodology was based on the logic of the development process rather than specific programs, the life cycle was applicable to an acquisition of any size. All development acquisitions were managed with this model regardless of whether the product was the modest electronic system such as a new radar, or a ‘star wars’ air defence system of which the space shuttle might be part. Further, it could be ‘scaled’. The principles were applied in exactly the same way to the sub-contractor project initiated to develop a new subsystem—say, the graphic display for the radar, or the thrusters for the shuttle—as they were to the overall program to acquire the complete system. An analogy could be drawn with whole-of-knowledge programs and the government agencies, universities, research centres and institutes. The location of the customer and the nature of the question would determine which organization and at what level program management responsibility would be assumed.

The central feature of the systems engineering management process was that of an iterative system-design process that ensured that customer needs were matched to system requirements, requirements were matched to functionality, and functionality was matched to a physical element in the system design; then that the final system was validated against the

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73 They still are. The life-cycle was revised in 2000 to allow greater flexibility for systems that might already exist but which require new or further development.
agreed system requirements. As the system requirements were a description of the customer’s needs, the validation demonstrated satisfaction of the intent of the contract, not simply the delivery of an operating system.

To ensure as far as possible that the logic that converted system requirements to detailed design requirements was sound, the iterative system-design process consisted of two iterative conceptual ‘loops’: a requirements to functions loop, and a functions to physical loop. ‘Synthesis’ was the term used to describe the process by which system functionality was allocated to the appropriate elements of the physical system. Existing subsystems would be used to the maximum extent possible; however, since the development program was initiated because there was no satisfactory existing system, some functionality could only be allocated to yet-to-be-developed system elements.

The point was that customers did not want a physical system as such; they wanted the functionality that the physical system provided. Defense customers typically required systems that detected, classified, evaluated, and engaged particular types of phenomena in the system’s operating environment. How those functions were achieved was up to the developer. Usually it was with a land, sea, air or space vehicle equipped with sensors, command and control computers, and weapons systems. Nevertheless, it was not always obvious what the actual physical system might be that could best deliver that functionality. The fact that the system mission was conceptually new was the reason that existing systems were inadequate, thus new systems had to be acquired through a development process, not simply through an ‘off-the-shelf’ purchasing process. Again, the analogy with whole-of-knowledge programs is that ‘customers’—whether governments, agencies or organizations—do not want research as theory, they want research translated into practice: but what that practice might be they are unable to determine, as acquiring an answer to that question was the reason they sought specialist assistance.

The defence and aerospace community found, nevertheless, that systems acquisition concepts by themselves were not enough. Within the broad program and project conceptual
framework there was interweaved an extensive management system for classifying and authorizing. The way work was to be defined, the way requirements were to be classified, and the way authority, responsibility, and accountability were to be defined and delegated was carefully specified and closely controlled. The aim was not to mandate how program and project participants were to do their work, but to establish standards, definitions and criteria by which that work should be described and reported so that unambiguous communication amongst disparate, separated, groups could be maintained and management control exercised.

The system for classifying work was through standardized ‘work breakdown structures’, which ensured that work and systems were ‘decomposed’ into generic elements that were independent of the organization undertaking the work. This enabled work to be compared across organizations, across programs, and across time. Without this standardization, neither synchronic nor diachronic comparison of organizations nor programs was possible.

Regardless of whether it was, say, a ship system or a space system, at the first level of decomposition the program components would be the same. At the next level, differences would emerge in the decomposition of those elements, but the elements would be standard for that type of system.\textsuperscript{74} When combined with an ‘organization breakdown structure’, a ‘responsibility assignment matrix’ (RAM) could be produced for the program whereby work scope, budget and responsibility could be assigned to specialist work teams; thus management control could be achieved.

Authority was separated into two broad groups, then sub-groups within each. Again, the point was that these were \textit{conceptual} groupings: thus they were just as applicable to the small local project as they were to the large international program. The groupings represented ‘constituencies’ of same-interest groups. Different ‘constituencies’ would have different priorities and measures of success. The primary interest of the ‘customer’

\textsuperscript{74} ‘Level 1’ specified the system; there were seven types, thus: Aircraft System, Space System, Missile System, Ship System, Surface Vehicle, Ordnance System, Electronics System. ‘Level 2’ was the actual system, thus Air Vehicle, Ship, Launch Vehicle, etc., along with nine other categories such as Training, Systems Test and Evaluation, System/Project Management, Support Equipment, Industrial Facilities. Level 3 contained system specific elements; for example, under ‘Air Vehicle’ from Level 2, would be the elements ‘Airframe’, ‘Propulsion Unit’, ‘Communications’, etc. Level 4 could be defined by the individual developers.
constituency was the acquisition of the most cost-effective solution to an identified need. For customers such as NASA or US Defense, this need inevitably arose through the identification of a ‘capability gap’: in other words, recognition that additional capability was required in order for the group to fulfill its operational responsibilities. For the commercial customer, the need would arise either through the identification of extra capability required to enable the company to survive, or for extra capability to enable it to reach new performance standards. Whatever the detail, the principle was that the acquisition would deliver clear ‘business benefits’. The primary interest of the ‘contractor’ constituency was to ensure that an unambiguously defined, agreed and measurable bundle of products and services that were within the contractor group’s competence to deliver was delivered to an agreed price and schedule, and that the contractor had the necessary authority to determine the best way to achieve that outcome.

Each constituency had a number of sub-groups within it corresponding to expertise and type of authority. For example, within the customer constituency the ‘sponsor’ had quite different authority and accountability than that of the ‘project authority’. So, for the CHASS project—production of a report on how to achieve ‘whole of knowledge’ research—the customer was the Department of Education, Science and Training (DEST), the sponsor was the DEST division that funded the study and to whom the report would be delivered, and the project authority was the office charged with ensuring on behalf of the customer that the task was properly defined, contracted and delivered. CHASS, as the representative of the contractor group, would be the ‘prime contractor’ and would be accountable for delivering the final report—even though the report itself might have been produced by a number of subcontractors who were the subject-matter-experts: the specialist researchers. Importantly, though, the only entity with the authority to warrant that the completed document was capable of satisfying the contractual requirements was the ‘prime contractor’. Conversely, the only entity that had the authority to warrant that the content of a particular subject element did what it was required to do, was the subject matter expert: the specialist researcher. The non-specialist customer, because they were not the specialist, could not. What they could say was
that the response did not satisfy their requirements; but that might have been because the requirement was inaccurate, not because the response was inadequate. Thus rectification of the problem in this instance would lie initially with the customer and the prime contractor, not with the specialist researcher.

For NASA and US Defense, this meant that authority was of three types: management authority, system design authority, and subsystem design authority. Each was distinct and independent; they could neither be combined nor eliminated, as each had quite different domains of expertise, responsibility, and accountability. For management authority it was to ensure that the optimum ‘trade-off’ decisions between cost, schedule, and system cost-effectiveness had been made; for system design authority, to ensure that the optimum system configuration and assignment of functional, performance, and interface requirements to subsystems had been made; and for subsystem design authority, to ensure that the optimum, most innovative, design had been developed to satisfy those assigned requirements.

There was accordingly a new understanding that in order to develop complex systems there was required conceptually an additional layer of analysis, and hence an additional layer of design and design authority. This meant that a new layer of specialist expertise was required: that of the systems engineer whose role was to determine the relationships and information flows between semi-autonomous elements so that a desired system capability was achieved. This new understanding precipitated new approaches to project organization. The prime contractor was no longer automatically assumed to be the shipbuilder, or aircraft manufacturer, or equipment manufacturer. Rather, it now was the organization most capable technically of defining the system and subsystem requirements, most capable managerially of coordinating and integrating specialist effort, and most capable financially of guaranteeing system performance. Research supplemented resolution of design problems but otherwise remained outside direct program management control.

III

Whole-of-knowledge inquiry involves as many layers of differing interests, authority and
expertise as the advanced technology development projects. The chain that links basic research to delivered value is the same.

The implications for whole-of-knowledge inquiry of these new conceptual understandings are fundamental. A whole-of-knowledge ‘customer’ product is analogous to a system. It is a particular arrangement of parts that results in synergy not possible simply from the parts as a collection. The parts of the whole-of-knowledge product—its subsystems—are HASS and STEM bodies of knowledge. These bodies of knowledge and understandings are integrated in a such a way as to provide a way of acting, relating, conceptualizing or being—a ‘business’ benefit—that cannot be realized by any of the separate bodies of knowledge whether scientific, technological, medical, artistic, humanist, psychological, cultural or critical. Solutions to global problems of water shortage in the twenty-first century, for example, will not be found through science or technology alone. Just as complex technological systems exhibit capabilities that are greater than the sum of the capabilities of their parts, so too do integrated bodies of knowledge products. It is from the relationship between the subsets not from the subsets themselves that the system capabilities are created.

For the whole-of-knowledge product, ‘system capabilities’ are social processes, facilities and understandings that transcend single-discipline solutions or interpretations. And as with the technological system where requirements or attributes that define a ‘whole’ system have no meaning for the parts, so with the ‘whole of knowledge’ product. The larger problem or need identified by the ‘customer’ has no direct meaning for the disciplinary components. Each problem has to have its ‘solution’ requirements defined, those requirements analyzed, and the epistemological ‘functionality’ implied by them identified.

In the whole-of-knowledge case, the customer requirement needs to be ‘decomposed’ into more detailed inquiry questions and those questions mapped to ‘work’ elements in an epistemological and ontological work breakdown structure. The ‘functionality’ implied by the questions would then translate into something such as the knowledge modes in Table 1. Just as ‘detection’, ‘classification’, and ‘engagement’ are typical technological system functions, so ‘intuition’, ‘explanation’, and ‘interpretation’ are typical knowledge system
functions. For the whole-of-knowledge product, the physical system will be the knowledge transfer mechanisms (media, processes, institutions) appropriate to the customer constituency. Just as the decomposed physical system in an advanced technology system is a hierarchy of possibly thousands of hardware and software items, so the decomposed whole-of-knowledge system will be a hierarchy of possibly thousands of disciplinary developed products. In complex physical systems, software modules are often distributed and shared throughout the system. Similarly, in whole-of-knowledge systems, the blurring of genres will mean that disciplinary products will often be common to a number of areas of specialist inquiry. The mapping profiles arising from the knowledge tetrahedron would clarify where these commonalities and complementarities arise.

With technological systems, architectural decisions—arrangements of parts in relation to functional flow—made at the system level determine the task that the individual subsystem must perform and the way that it must relate to the other parts.\(^{75}\) This will require either the adjustment of an existing subsystem to satisfy the new interface requirements, or the research and development by the subsystem specialist of a compatible new subsystem. Just as a radar system can be optimized to fit into a particular combat system through manipulation of existing performance parameters such as power, range, frequency, data rate and physical size, so knowledge domain specialists can optimize existing knowledge domain elements to match higher level requirements for variations within particular knowledge categories. The variations required will depend on the larger question being asked, or from a number of questions arising from the larger problem being investigated; in other words, derived questions. A radar optimized for one particular platform and mission, might have to be re-designed for a different application.

Of particular significance is the fact that, as with technological systems, the questions might not require new research in order to be answered. New research is only undertaken in systems development if the existing sub-system cannot be ‘optimized’ to meet the new

\(^{75}\) For whole-of-knowledge 'system', the knowledge tetrahedron allows mapping of information flow.
functional, performance, and interface requirements. The same applies to the whole-of-knowledge product. New research is only required if the current specialist knowledge is insufficient to answer the questions allocated to it. In most instances, the task is one of applying existing specialist knowledge to the new question asked—just as most questions from the ‘floor’ at a conference can be answered with existing knowledge. Only if they cannot is new research required. Consequently it is possible that a completely new and valuable whole-of-knowledge product can be delivered, as with technological systems, without new research being required. But, as with technological systems, that would be unusual. By the very nature of them being on completion the most advanced systems available, somewhere within those systems would be elements that required new research for their creation.

The notion of layered authority on which the management of these programs is built means that accountability, authority and expertise are locked together. Responsibility is matched to expertise, and those given responsibility are also given sufficient authority to enable them to exercise expert judgement. In technology development projects, a subsystem designer will be (can only be) accountable for satisfying the requirements that have been ‘accepted’ by them as domain expert. But as domain expert they are the only one with the authority to warrant the subsystem design—it is the qualification program that will determine whether that judgement was sound. The accountability for the ‘whole’ system, however, can only be borne by the system design authority who allocated design requirements to the subsystem elements. The actual analysis and decisions regarding the allocation of requirements will be the result of a team effort between the system designers and the subsystem specialists, but once agreed, accountability and thus authority for warranting the soundness of the analysis and allocation decisions rests with the system design authority.

Applying this concept to whole-of-knowledge programs means that there is no conflict between ‘academic self-determination and radical creativity’—academic freedom—and the management of institutional performance. Not only is basic research (the ‘radical-creative

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76 The phrase is Simon Marginson’s (Simon Marginson, “Academic Creativity Under New
imagination’ at work) outside the experimental development category where management is exercised but, even when it is required, the authority for its efficacy and relevance remains with the specialist researcher. The funding of basic research remains a strategic decision of the particular specialist organization and related to its aspirations toward research quality. Performance management remains in the experimental-development–delivered-product region of the continuum. Lockheed Martin which undertakes a wide range of government-funded program conceptual studies and systems developments had self-funded R&D expenditure for 2006 of US$ 1,139 million; Boeing’s was US$ 3,200 million.\footnote{Lockheed Martin Corporation 2006 Annual Report, 17; Boeing: Charting the Course: 2006 The Boeing Company Annual Report, 22.} For a for-profit company there is no conflict with the notion of pure research and management control since it is conducted within a business model that ensures that curiosity-driven research—research for its own sake—ultimately, ‘pays its way’ through enabling innovative product development, or even, occasionally, the identification of completely ‘new’ business. For-profit companies also buy basic research. In 2005, thirty-six percent of Nokia employees were employed in R&D. Currently, that figure is thirty-one percent, but now the company has joint research facilities with Massachusetts Institute of Technology and with Stanford University.\footnote{21,453 employees out of a total of 68,483 employees. US SEC Form 20–F 2006 Nokia, Year ended 31 Dec. 2006, 76, 38.}

These notions of layered authority, and the notion of multiple constituencies, do have major ramifications for the identification and organization of specialist knowledge. Just as the defense and aerospace systems development programs identified the need for a new level of engineering and management expertise, so for whole-of-knowledge programs a new level of analysis is needed and thus a new type of expertise is required. The new and distinct intellectual task to be performed is the analysis of the higher-level question, its breakdown

into lower-level ‘derived’ questions, the mapping of these to the appropriate ‘functional’
categories, then the allocation of that functionality, and lower-level functionality, to the
relevant disciplinary sub-elements. That responsibility is held at system level (program level)
but the complexity of the task will almost certainly mean that the analysis would have to
undertaken by a multi-disciplinary team: nevertheless, the end result would be ‘warranted’ by
the new (higher-level) specialist authority.

Management by the academy of the research process in the academy—if it is to be
effective—must be based on the assumption that the academy as a group-unit represents a
research capability greater than the sum of its parts. The institution has a creative, synthetic,
role. The individual researcher might be capable of developing valuable, ‘finished’, social
products from his or her own basic research, just as the individual NASA engineer might be
capable of bringing a wholly original product to market. But NASA’s purpose and value is
not the provision of a stimulating work environment for talented individuals. NASA (or
Nokia and others) is more than the individual talent of its employees. Management and
technical processes in those organizations ensure that a synthesis of effort occurs such that
institutional output is greater than the sum of the (talented) individual parts. Similarly in the
research university in the twenty-first century, the research output of the university should be
more than the sum of individual academic research output.

IV

The notion that specialist inquiry is inevitably embedded within some larger frame is self
evident and well understood. The CHASS paper quotes remarks made by a representative of
a government science organization, the CSIRO:

In reality, most of our ‘science’ questions do, to various degrees, need to be
considered in the broader context … it makes a lot of sense first up to use
interdisciplinary measures to frame the research questions or broader
research agendas.79

Although that statement might seem to be recognizing the need to integrate science questions

79 Metcalfe, et. al., CHASS Occasional Papers, 28.
into a holistic knowledge frame, the vision behind it is more limited. The intent is more the effective enunciation of the science question, than the effective identification and framing of a ‘whole of knowledge’ question where science’s involvement, its lower-level derived question, is yet to be defined. In regard to the derivation of a science question, the CSIRO itself, as a government-funded research organization, needs to develop a ‘solutions’ acquisition process model that accommodates a more comprehensive notion of interest groups and authority. Government-funded research programs have very long ‘stakeholder’ chains. Many different interest groups are involved. Each has a different notion of what ‘successful’ means, and thus each has different views on how success should be measured. The question being researched by the specialist will almost certainly be quite a different question from that asked by Government.

Similarly, a more comprehensive management understanding is required at the project level. The CHASS paper notes that ‘many of the cross-sectoral collaborations reported benefit from using end users in the projects to ensure greater ownership of the final outcome, service or product’. But the authors give no indication that they understand the complexity of the management process required to ensure that positive outcome for all projects or programs. Positive outcomes are quite easily achieved with small, motivated, relatively homogeneous groups working closely together, but much more difficult with large multi-sectoral groups and authorities that may be widely dispersed geographically and culturally. As whole-of-knowledge programs could involve several governments, many institutions, and very many disciplinary groups and sub-groups, or may involve only one institution such as a university, a refined approach to the identification and delegation of authority and responsibility is needed for their effective management. The participants are so numerous, and their expertise and interests so different, that the integration of that effort is impossible without refined management processes and structures. And as with technology development, a ‘scalable’ system acquisition life-cycle needs to be defined for whole-of-knowledge programs so that structured program milestone decisions can be facilitated and appropriate

80 Ibid., 28.
system acquisition strategies selected for programs of any size. None of these three requirements—a new level of analysis, new authority structures, and new development models—would be difficult, in principle, to satisfy. All that is required is the modification of existing industry models and definitions. However, the modification of some aspects of those models would not be simple.

With knowledge programs, the work of modification of the system analysis process requires an extra level of conceptual subtlety to that required by technology programs. The definition and agreement of categories for the classification of different types and forms of knowledge—consequently, how questions are to be classified and thus how ‘functionality’ is to be comprehended, defined, and decomposed—is complex and difficult. Similarly, the definition and agreement of a model or principles by which information or knowledge flows between knowledge elements can be determined, is complex and difficult. With knowledge programs the ‘work’ elements to be defined are phenomenological and ontological in nature. As many of these programs will have components where research at the limits of knowledge itself is required, the establishment of conceptually complex and refined elements is an essential prerequisite for their execution. In the programs we are concerned with—pan-disciplinary programs that work at the edge of current understanding—events in nature, events in culture or society, and events in consciousness need to be accommodated.

For categories and hierarchies of knowledge and functionality to be agreed, some form of agreement would need to be reached on the handling of entrenched conceptual dichotomies such as causality and intentionality, or structure and agency, or even on how the very concepts of agency, rationality, knowledge, mind, truth, should be considered. At what level should those concepts be placed in any ontological or epistemological hierarchy? By definition, whole-of-knowledge inquiry can assume no foundational epistemic perspective.\footnote{Although a model has been proposed in this thesis (Chapter 4, Section 3), that is a preliminary conceptual ‘sketch’ produced in isolation to assist the presentation of an argument. The development of an agreed working model would be a pan-disciplinary project in itself—and requiring detailed collaborative specialist work by a range of large and small academic teams to establish standards for integrated inquiry.}

\footnote{Thus the selection of the ‘tetrahedron’ of Chapter 4. There is no HASS/STEM divide.}
Scientific realism can be no more privileged than social realism; structural determinism no more privileged than autonomous self-fashioning. At some level the very basic categories concerned with *modes-of-being* must be defined and agreed. Whether that level should be ‘high’ or ‘low’ is itself not obvious since its selection might seem to privilege one form of realism—scientific or social—over the other. Many category schemes exist; Aristotle, Descartes, Husserl, Whitehead, Hartmann and Quine are just some who have attempted to define basic categories. David Woodruff-Smith, for example, equates basic categories *with* modes-of-being and defines them as such things as dependence, intentionality, unity, and process.83 David Woodruff-Smith is a philosopher. Specialists with different interests would be likely to have different preferences. What might finally be agreed collectively is to be determined. However, the identification and classification of agreed categories and structures is a particularly challenging task. But it must be done if integrated inquiry is to be possible.

For organizations such as NASA and US Defense, conceptual arguments are securely contained within the boundary of scientific realism. Epistemological doubt is outside that boundary. Standard templates have long been developed and agreed. But for the academic research communities, conceptual arguments are unbounded. Epistemological doubt and ontological doubt are fundamental. No templates exist. Unfortunately, effective management of whole-of-knowledge inquiry cannot be achieved without them. The search, though, is not for the absolute ‘truth’ about a single reality, but for a means of assisting unambiguous communication about perceptions of and within both scientific and social reality.

It might be felt that the comparison of the development of whole-of-knowledge systems with the development of technological systems has been taken too far. However, the similarities are striking. With the development of technological systems, those involved have learnt through bitter experience that without a clear understanding of ‘work’ categories, authority

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boundaries, and structured project and program processes, no complex acquisition can succeed. How then could the development of self-reflexive and very much more conceptually complex whole-of-knowledge products be successful when none of these fundamental management elements are defined? The most obvious answer is that they cannot. And many projects of this type would be of much higher complexity than those which the CHASS paper used as examples.\textsuperscript{84}

Research cannot be utilized in any managed sense without program-level management models and processes. Without them, basic research becomes supplanted by applied research and development activity. With them, it is the translation to usable products that is managed, not basic research. The product to be delivered in any program funded by Government will always, if it is to be acceptable to Government, be directly related to some form of social action. In most instances, particularly where extensive change is involved, both physical and psychical change will be involved. For example, in all of the four current Australian national research priorities the social and the scientific are inextricably joined—the physical, the psychological, and the cultural are intertwined.\textsuperscript{85} Investigation into these priority areas involves not only causal relations in nature, intentional relations in consciousness, social relations in culture, but also the nature of their interconnection—the information flows—and the effects on each of this interaction. Thus a management process applied to them that does not contain a schema that allows the effective separation of research categories, or the effective integration of scientific realism and social realism, will be ineffective. A process is needed that allows researchers and developers to deal with those categories and epistemic structures separately, and combined, and both statically and dynamically—a process, in other words, that makes the integration and interaction of \textit{Naturwissenschaften} with \textit{Geisteswissenschaften}, and research with development, possible.

\textsuperscript{84} See Metcalfe, et. al., \textit{CHASS Occasional Papers}, 100–109. Twelve case studies were described but no distinction was drawn between research categories. Most case studies were mixes of applied research, development and innovation. None were pure basic research.

\textsuperscript{85} The research priorities are: an environmentally sustainable Australia; promoting and maintaining good health; frontier technologies for building and sustaining Australian industries; and safeguarding Australia. Quoted in \textit{CHASS Occasional Papers}, 15.
It is clear that a much more detailed model of the whole-of-knowledge acquisition life-cycle needs to be developed, promulgated and used. Between the extremes of pure basic research at one end of the life-cycle to the delivery of a useable product at the other, and between the ends of the spectrum of possible contributors and roles, there are unlimited options and combinations. Management of these programs is not possible without adaptable, scalable, management, nor without ‘inquiry’ templates.

There is a need at the disciplinary level also. By applying the concepts and logic of technological research and development and systems acquisition process to integrated inquiry programs, the classification of research in the humanities and social sciences disciplines becomes more refined. There is as much a distinction between research and development in that sector as in the science and technology sector. For their effective management, the distinction between pure basic research, strategic basic research, applied research, and experimental development is no less important in the humanities and social sciences than in science and technology.

If a program in either sector does not lead at some point or in some component to research at a fundamental level, then what is being performed is not research activity in the sense of discovery, but the organization and application of existing knowledge in new ways—which, in Frascati Manual terminology, is ‘experimental development’. The radar manufacturer only commissions new research to be undertaken if the existing system cannot be adapted to new tasks through manipulation of existing technology and performance parameters. The radar manufacturer will, however, independent of any contracts it may have, fund its own research and development program in order to ensure that it has products that are, for selected parameters, leaders in their competitive fields. If not, it will not win contracts to participate in larger development programs, nor will it survive as a company in the longer term. The range and depth of its R&D program are strategic business decisions. With any external development-program sub-contract it may hold, the extent of program-required research effort it might expend will be a contractual decision and program funded. In a like manner, the humanities or social science ‘centre’ should only commission new
research if the question allocated to it cannot be answered from existing specialist knowledge. Applying knowledge is not basic research. But again, it is unlikely that basic research in some part of the whole-of-knowledge program sub-elements would not be required. Also, quite independent of that particular program, the humanities or social science centre (and associated departments) will, like the radar manufacturer, undertake ‘corporately’ a full-spectrum research program to ensure that its specialist knowledge is pre-eminent in those disciplinary areas and disciplinary sub-specialties that it considers its areas of strength.

Universities, Research, and History

If the argument presented above were to be accepted, there would be a number of consequences for universities, research and individual disciplines. In particular, there would be ramifications in three aspects: first, the role of universities in whole-of-knowledge programs; second, the relation of basic research to that role; and third, the relation of bodies of knowledge to basic research. For the single discipline, the question that arises is: what is the discipline’s distinctive basic research function? If it does not have a true basic research role what other distinctive research or development role might it have?

Although there are a number of research categories in the R&D administrative schema, it is pure basic research and strategic basic research that is the university’s key competitive strength. Thus the primary question for the individual discipline remains: what is its distinctive function in basic research. And, if is accepted that academic basic research is central to whole-of-knowledge programs and that these programs will be the broad shape of programs in the future, then the question to be answered ultimately for the individual discipline is what role can it play in the university’s twenty-first-century basic research programs?

If the foundation of basic research activity is discovery, then discovery in academic
research—that is, intellectual inquiry—means epistemological and ontological discovery. Scientific discovery supports that ‘mission’, as does discovery in the humanities, arts and social science. There can be no epistemic dualisms. Neither the interpretive nor the empirical can be privileged. Cultural frameworks and scientific frameworks are inextricably entwined: each presupposes the other. Whole-of-knowledge discovery implies discovery at the boundaries of human understanding. It is not just the comprehension of general relations of the particular—truth and knowledge claims about observable phenomena—but also how to contextualize experience to make it intelligible (and bearable). Inquiry at this basic research level involves both abstract thought and embodied experience. Abstract thought and embodied experience must ultimately be integrated if research results are to have both validity and meaning; but that integration can only be achieved through team and program design, and thus at a level above the specialist. That whole-of-knowledge ‘system design’ function is a pan-disciplinary university function. Management of team design within basic research, and management of the research spectrum interconnections, is the university’s primary twenty-first century research responsibility.

Fortuitously, that function coincides with the university’s unique capability and that capability is the university’s key competitive strength in the research market. The university provides the only true unbounded research environment; and that environment, in turn, is the most attractive research environment for leading researchers. The modern university is the organization best able to integrate physical and metaphysical research, and that ability should assure the university of a distinctive future research role. The ‘whole of knowledge’ product now being sought can only be produced by the integration of leading research in both HASS and STEM specialist areas. It can only be produced by the integration of specialists in all fields, and it can only be produced in an atmosphere of complete academic freedom—outside the bounds of any cultural or epistemological restrictions on either questions or answers.

Very few organizations have that capability, nor do they have that freedom. Research effort in for-profit organizations has to be more targeted towards products which are more tangible and whose utility is available in the shorter term. Even many not-for-profit
organizations bear this restriction. The CSIRO, which has epitomized the notion of a pure research institution, now directs, through its ‘flagship’ programs, a majority of its government funding to research directly associated with the National Research Priorities. Only about one quarter of CSIRO effort is devoted to research not related to the four National Research Priorities.\(^{86}\) This government-directed research, being politically generated, will always be concerned with social and economic ‘needs’ framed within ‘normal’ social boundaries, and hence intellectually constrained. The CSIRO could, through well constructed ‘solutions’ acquisition processes, ensure that Government intellectual constraint does not penetrate down to the basic research level, but it would still have has no Geisteswissenschaften capability; it would still be incapable of true integrated inquiry.

One key strategic objective identified by the CSIRO in its recent Strategic Plan was to ‘stimulate breakthroughs by promoting cross-pollination, especially in frontier research’.\(^{87}\) The Strategic Plan identified five ‘emerging science’ themes that cut across traditional boundaries and would be important for twenty-first century science. The themes were novel biotechnologies, complex systems science, new information and communication technologies, nanotechnology, and social and economic integration. It is self-evident that each of those themes is connected inextricably with the social. For example, the Plan noted that the central theme of complex systems science was

> the exploration of systems whose behaviour cannot be understood or predicted from the characteristics of their component parts. Such systems are inherently nonlinear and are often characterised by ‘fractal scaling laws’ and may exhibit ‘self organisation’. Complex systems are being found and studied over a wide range of time and space scales from those of a single cell to the entire globe and involve processes ranging from mathematical or physical alone to the intersection of biology and socio-economics.\(^{88}\)

It would seem, therefore, if the CSIRO is to achieve its objective of breakthroughs in frontier research, it will need research partners that have capability in more than just the


\(^{87}\) Ibid., 72.

\(^{88}\) Ibid., 72.
physical sciences. Classical reductive science is not enough. This is the reason

*Geisteswissenschaft* emerged; and later, postmodernist inquiry. In that vein, Deborah and Mark Madsen noted that the new scientific interest in chaotic dynamics (which requires the scientist to dispense with certainty or absolutism in favour of contextuality, and to think holistically not reductively) marked the arrival of ‘postmodern science’.89 The flow, however, is in both directions. Postmodernist thought can no more ignore advances in the biological and neurophysiological sciences than science can ignore the insights postmodernist thought has brought to inquiry.

If complex systems science involves the intersection of mathematics, physics, biology and socio-economics, then complex systems science is indistinguishable from whole-of-knowledge inquiry. Its pursuit involves all domains of knowledge and requires all modes of inquiry. The CSIRO might have complex learning organisms as its research focus, but so do the humanities, arts, and social sciences. Their inquiry, in fact, is more advanced in that direction than the CSIRO’s. Habermas’s communicative action theory, Luhmann’s social systems theory, and Latour’s actor-network theory,90 for example, are concerned specifically with agency and self-organization in complex social systems, but have moved beyond the simple functionalism of science. Researchers in the humanities and social sciences seek, like scientists, to illuminate the connections between agents and their environments, and to extrapolate, just as the scientist does. Both seek to provide a sounder basis for future action; but through advances in both, possibilities for self-fashioning are created which affect what that action might entail. In the twenty-first century, biotechnology and ecosystems are central research themes and those themes subsume all knowledge domains. However, the social imperative framing those themes is action and self-fashioning. ‘Intelligent' pursuit of those


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ends demands a ‘critical ontology of ourselves’ for which expertise from every discipline is needed.

On the theme of ‘novel biotechnologies’, the CSIRO stated in its Strategic Plan that ‘biotechnology research will deliver new insights into the molecular make-up of living organisms, human populations and entire ecosystems’. But as was discussed in the previous Chapter, biotechnology and genetic technology is not just new technology, as the CSIRO infers. All technology changes the way society understands itself, but with genetic engineering, technology is no longer ‘other’. As Jürgen Habermas noted, genetic technology cannot avoid changing the self-understanding of the species. It uproots the categorical distinction between ‘the naturally grown’ and the ‘made’, which, up to now, represented a fundamental distinction.91 The differentiation between what is ‘manufactured’ and what has ‘come to be by nature’ alters familiar modes of action.92 As Hans Jonas has argued, previously the engineer or technologist was dealing with ‘dead matter’, the activity was ‘building’, but in dealing with organisms,

activity is confronted with the auto-activity of active material, the biological system in its natural functioning into which a new determinant has to be incorporated … The mode of the technological act is intervention, not building.93

Thus, as Jonas concludes, ‘to ‘produce’ here means to commit something to the stream of evolution in which the producer himself is carried along’.94 ‘Technologically mastered nature now again includes man who (up to now) had, in technology, set himself against it as its master.’95 The nature of human action has changed.96

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92 Ibid., 46.
94 Jonas, *Technik, Medizin und Eugenik*, 168
Novel biotechnologies such as ‘assisted reproductive technologies’—treatment for the medical condition of infertility—are already pervasive. And as Robyn Ferrell has observed, these technologies ‘now leach into the more speculative realms of genetic manipulation’. She notes that any technology produces change, sometimes dramatic change, and observes also, like Jonas, that ‘its innovation can be seen to exceed the thought that engendered it’. Ferrell proposes that in its ability to produce something that is the same but different, technology is ‘reproduction’.97 Her conclusion is thus a corollary to Jonas’s observation that technologically mastered nature includes man. But even technology outside genetics is never just technology; it cannot be separated from the social and political. Technology is a social/political agent, as the mobile phone and the internet have shown. Through what it represents in imagination, technology is profoundly socially constitutive. In her declaration that she ‘would rather be a cyborg than a goddess’, Donna Haraway assigned social agency to technology. In Haraway’s polemic, to be a cyborg is a more politically viable mode of social life than that of a feminized female human.

But even Haraway, in her assumptions, is subordinating ‘new technology’ to normative discursive frames—in this instance, late twentieth-century radical feminism. Technology in her argument is still ‘other’, a manufactured product of capitalist society. But as Habermas, Jonas, and others have warned, technology is no longer ‘other’. The ‘breakthroughs’ the CSIRO hope to achieve through ‘cross-pollination’ are envisaged by them as breakthroughs in new technology. They are still thinking of this future technology as ‘other’ and as a passive product of future science. But in Jonas’s words, ‘the certainty and completeness of prediction, fall short of the causal pregnancy of our technological deeds’. Thus, ‘an imaginative “heuristics of fear”’ should replace the former ‘projections of hope’.98 If true cross-pollination across the HASS-STEM divide occurs, the breakthroughs made are very likely to be of a different kind than the CSIRO currently imagines.

II

98 Jonas, The Imperative of Responsibility, x.
If, as Gaston Bachelard has claimed, ‘all knowledge is in response to a question’, 99 then the ability to achieve significant ‘breakthroughs’ must require an ability to ask significant questions—questions that will be larger than single disciplinary frames. Consequently the ability to frame and address significant questions is at the core of research competence, but questions that transcend disciplinary sectors cannot be identified and addressed unilaterally by individual specialists. Even agreement on what, at a meta-level, ‘significant’ means, requires substantial pan-disciplinary work. Meta-level questions require for their framing and decomposition management at a pan-disciplinary level; they require management as university programs. Regardless of where the research ‘need’ is generated—whether from Government in its pursuit of National priorities, or Government block funding for basic research, or institutional self-directed research—the ‘need’ has to be decomposed into a hierarchy of significant questions that can be worked on at the specialist level, and in a way that enables the results to be integrated. For it to perform this role, the university would need to alter its own organization so that its intellectual function was enhanced to make it equal to its administrative function.

As the university is an organization which has the ability to frame ‘big’ questions, and as it is the organization which is pre-eminent in the ability to pursue ‘big’ questions (because of the breadth and depth of its specialists and the unbounded inquiry frame in which they work) so the university is the organization with an indispensable role in the conduct of significant research programs. The university is the logical entity, through the intellectual authority delegated by government through the university protocols and its legislation, to be both the sponsor and the ‘system design authority’ for ‘big’ questions. However in the university, currently, there are no management structures for whole-of-knowledge inquiry, nor intellectual structures for system level analysis of the ‘needs’ which drive research funding.

Research management in the university, as it is currently performed, is sales and

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performance management for the various separate university research clusters.\textsuperscript{100} It is not management of integrated research activity for specific research programs arising from higher level ‘needs’ or requirements. Within the university, the term ‘management’ connotes corporate management—management of the totality of the learning, knowledge transfer, and research functions which define the organization as a university. But research program management is quite different from university corporate management, just as program management in NASA or Nokia is different from corporate management. The aims, organization, tasks, budgets and authority for program management are quite different from the aims, organization, tasks, budget, and authority of corporate management. Program management is the weft to corporate management’s warp within the fabric which is the organization. In this ‘matrix management’ model, the actual research or development effort is performed by the subject matter experts from the functional (disciplinary) departments\textsuperscript{101} within the corporate entity, however, those specialists are accountable to the specific research program for the effectiveness of the research or development work they undertake for that research program. The university needs to adapt its research management processes to reflect these matrix management principles.

Without some form of arrangement for higher level management of whole-of-knowledge inquiry, it is hard to see how the academy can ever resolve the problem, which Novick and Megill discussed, of increasing specialization leading to the increasing fragmentation of knowledge rather than to the desired synthesis. Or as William J Bouwsma described it: ‘our proliferating specialization’ which is ‘so devastating for the historical understanding in the long run, no matter how convenient in the short’.\textsuperscript{102} But span can only be achieved through organization, just as deep expertise can ultimately only be achieved through the individual researcher. No one person can achieve increasing span and increasing depth unless the hours in a day and the years in a life can be increased without limit.

\textsuperscript{100} That management imposes only generic expectations on the research function.

\textsuperscript{101} Equivalent to the, say, engineering, production, finance, business development, sales departments of the commercial company.

Nevertheless, the individual researcher remains the fundamental building block from which all else is built, thus any more comprehensive synthetic knowledge must result from the combination of researcher and program process.

Disciplines have not previously had to consider the role of their specialist subjects within a larger research framework because the organization of knowledge and its validation followed from disciplinary definitions and practice.\(^{103}\) Research practice followed disciplinary definitions and unequivocally its aim was the expansion of the disciplinary body of knowledge. Now, as Gibbons and others have emphasized, the mode of knowledge production is changing in significant ways—from Mode 1 disciplinary knowledge, to context-driven multidisciplinary research team knowledge (Mode 2).\(^{104}\) Knowledge production is separating from disciplinary structure, and is being institutionalized in non-disciplinary ways. Research is being conducted through research centres, institutes and think tanks, with faculties and departments being the preferred form for carrying out teaching. Mode 2 knowledge, as Gibbons has described it, is produced in the context of particular applications ‘intended to be useful to someone whether in industry or government, or society more generally and this imperative is present from the beginning’.\(^{105}\) In other words, practical ‘needs’ driven inquiry, such as the Australian Government’s National priorities, US Defense’s capability requirements, or NASA’s Government directed missions. The university must understand the research-to-products chain, and manage its basic research appropriately.

However, when a comparison is made between the management of technological research and development (as undertaken by NASA or US Defense, say) and HASS/STEM

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103 In an interview with Theodore Barker in 1977, Julia Mann reflected: ‘I certainly never asked myself where I was going and I can’t remember anybody ever saying to me where is the subject going to or what is its object or anything like that, any more than one would have asked in those days what is the object of history in general.’ Quoted in Michael Bentley, *Modernizing England’s Past: English Historiography in the Age of Modernism, 1870–1970* (Cambridge: Cambridge University Press, 2005), 128.

104 See reference footnote 79, Chapter 1.

research and development, a significant anomaly becomes apparent. The management of
defence and aerospace research and development is conceptually much simpler than that of
the management of university and government-funded research and development, yet the
management terminology and models used in the former are very much more accurately
defined and acutely conceptualized than in the latter. University and government have not
understood that it is the management models which need attention, not the direction of the
research. A change of assumptions is required, but that alone is not sufficient, there must be
changes of research structure and process as well.

The changes in research structure and process that are required will not affect the
immediate practice of the individual specialist. What ‘happens’ in the world still needs to be
identified, and, in Donald Kelley’s words, “‘ideas’ must be brought down to a human
level’. Meaningful evidence still needs to be drawn from the material of the researcher’s
specialty, but it is the researcher’s specialist understanding of the raw material which enables
new knowledge to be derived from the application of abstract questions. Specialization is the
essence of research conducted by an individual. The broader ‘product’ is acquired as ‘Mode
2 knowledge’ through the specific, directed, research project. That does not mean that the
questions the researcher asks of the specialist material will not change, nor that disciplinary
boundaries will not move. Nor is it to deny the circularity of the link between the specialist
question and the needs-driven applications that indirectly affect specialist questions.
Questions do not arise outside historical contexts. But the expression ‘generalist researcher’
is an oxymoron and ‘holistic’ specialist inquiry is meaningless. The specialist researcher will
remain a narrow specialist.

III

If the pursuit of whole-of-knowledge inquiries were in the future to be managed as research
and development programs, what implications does that have for historical research and the
way that research is performed? Second, as the research edge is always moving, how should

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106 Donald R. Kelley, The Descent of Ideas: The History of Intellectual History (Aldershot:
the history discipline’s research focus change in order to adapt to the natural movement of the basic research frontier?

In a changing research environment, change is required to maintain a relative position. If history, or any academic discipline, is to maintain its relative significance and value to intellectual inquiry, then it must evolve as intellectual inquiry evolves. To a large degree this occurs reactively through the need to provide material of ‘interest’ to either disciplinary specialists, or general readers. Through the process of staying ‘relevant’, the discipline maintains its position. But that process cannot be relied on to assure a discipline’s future. Without active intellectual ‘advance’ a discipline can simply ‘fall off’ the basic research train and become a derivative ‘product’—such as, for history, ‘history channel’ products, or national commemoration products, to be consumed along with other social and cultural products.

Because the discipline of history has a central cultural function, the strong tendency is to subordinate the basic research task to this cultural function. Jean-Noël Jeanneney recently called this the historian’s ‘civic responsibility’. History for Jeanneney still operates as an autonomous discipline with clear ‘applied’ functions. He accepts the observation that each epoch, in its own way, and with its particular concerns, asks new questions of the past and rereads it differently—but he subordinates this to cultural, didactic, requirements and argues that it ‘should not lead to cynical relativism’. On the contrary the historian’s civic responsibility becomes the ‘weightier’ because of it. Here Jeanneney is expressing what is a common view of the historian’s function. For him that function has three parts:

First, contributing to a truth (if not the truth) about humankind—what it has been, and consequently what it is; second, clarifying ideas, in order to serve those who engage in action; third, answering the call to help one’s country, notably through the education system, in its construction of a national identity which is both worthy of the universal values that must inspire it, and faithful to its unique place on the Earth. 107

107 This quote, and earlier attributions, are a précis of a flyer for a lecture entitled “The Civic Responsibility of Historians”, to be delivered by Professor Jeanneney at The University of Melbourne, 29 April 2008.
But this is just the corporate equivalent of producing mainstream developed-product for a particular market need. As research, its form and intellectual extent is limited to the horizon of national and international humanist culture. Research in this sense is applied research directed towards improving the existing product.

Within a true basic research frame, the only limits are the current epistemological and ontological frontiers. Not only do the types of questions change, but the motivation behind the questions change. Bishop Stubbs’s history was of value to intellectual inquiry in his time, but was of marginal value one hundred years later. Historical inquiry in the twentieth century was interested in the construction of meaning within historical contexts, not, as for Stubbs, constitutional ‘progress’ and the historical unfolding of a divinely ordained meaning. The inquiry dimension or axis had changed, and disciplinary focus changed with it. Intellectual evolution was manifested by a (cognitive) process of abstraction, not accretion. It was exactly this process of abstraction which William J. Bouwsma was noting when commenting on the conceptual changes he observed taking place in his field of intellectual history.108

Intellectual history, Bouwsma said, had long been ‘probably the most interdisciplinary area of historical study’ and a specialty that ‘until recently, was regarded with particular respect’. However, during the last two decades, he said, ‘the impression has grown among historians that the kinds of material likely to be studied by intellectual historians are not very useful for telling us what we most need to know about the past’. The problem was not that intellectual history was not useful, but rather that it had outgrown its form as an isolated specialty. ‘We no longer need intellectual history’, he observed, ‘because we all have become intellectual historians: some of us, no doubt, unintentionally, reluctantly, and without fully recognizing what has happened’. Nevertheless, the particular value of the specialty was, he argued, ‘the liberation—not always welcome—that can result from identifying and laying bare for inspection our own deepest assumptions about ourselves and the world’.109

Bouwsma noted that the arts have long been recognized as a primary vehicle for the

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108 Bouwsma, “From History of Ideas to History of Meaning”.
109 Ibid., 279, 280.
expression of meaning and that intellectual historians ‘have long sensed (without perhaps fully understanding) their affinities with art historians’. History had become characterized ‘not (as previously) by the sources that it utilizes but by the questions that it asks’. And intellectual history should be seen as a ‘subset of a larger category of human behaviour’. This category

consists of all efforts to discover or impose meaning on our experience, although some sense of meaning is both a condition and a product of experience. These efforts are not the work of the “intellect” or of any particular area of the personality. They are rather a function of the human organism as a whole; they are carried on both consciously and unconsciously; and they are presupposed by, and merge with, every more specific human activity.

Here, Bouwsma was both advocating more holistic understanding and acknowledging the movement from field of inquiry to mode of inquiry. ‘I do see’, he said,

in the conception of man as an animal who must create or discern meaning in everything that he does, the most promising resource that has yet presented itself for overcoming the consequences … of our proliferating specialization … a shift in emphasis from raw historical experience (i.e., what happens to people) to what human beings have made out of that experience [noting] that the creative interpretation of experience also shapes experience, which is only in the abstract independent of the meaning imposed on it.

But this was simply acknowledging that all disciplinary inquiry is relevant to human understanding. In 1981, when he spoke, Bouwsma seemed to be clinging to the hope that somehow a change of assumptions would eradicate specialization in research. A change of assumptions is required, but that alone is not sufficient: there must be changes of research structure and process as well.

The main burden of change and synthesis is borne at a higher level, at the institutional level, not at the level of the individual discipline. It is borne at the institutional level as part

110 Ibid., 285, 287.
111 Ibid., 283.
112 Ibid., 287–288.
of the requirement to implement and maintain a management structure for integrated, multi-disciplinary, academic inquiry programs. The disciplines’ responsibility is the maintenance of first-tier domain expertise. Their accountability is the warranting of specialist competence. They are the only entities that can create and train specialists in any organizational sense. The disciplinary field still identifies the epistemological core of the specialist’s inquiry. However, the value of the specialist to the program is not their disciplinary field, though fields are important, but the category of question they ask. The type of question is the most significant parameter in the determination of the particular role that the specialist researcher or research group will perform in the program’s integrated research team. The type of question is both the ‘product’ (as, say, a radar is the product in a combat system) and the functional category to which derived questions are assigned within the integrated scheme (just as particular ‘detection’ or ‘classification’ functions, for example, are assigned to the radar subsystem in the combat system). And as with the radar subsystem, the category and type of question will determine the nature of the interface with other disciplines. In the jargon of the systems development model, it will determine the nature of the ‘interface specification’. For the individual disciplines in the university, their conceptual edge is at the interdisciplinary interface, in the way that they interrelate, rather than enclosed within the disciplinary ‘product’. The disciplinary domain and method remain unchanged. It is exactly analogous to the radar product having to change in order to be able to integrate and perform effectively within a new system. Change will occur in the disciplinary domain, but it will be incremental and evolutionary and result from interaction at the interface.

If the question of academic research is considered in this more complex model, then for the history discipline within the academic enterprise there seems to be two distinct functions it performs. First a cultural function—a development function—which it has performed through its hand-crafted historiographical products which provide explanatory cultural narratives; and second, a cognitive function—a research function—which is required since historical consciousness and historical knowledge are inseparable from the process of inquiry reflected in pure research. Problems of understanding are at root historical problems if the
arguments of Hegel, Marx, Dilthey, Mach, Lukács, Collingwood and others are accepted; and historical consciousness is inseparable from judgement if the arguments of Vico, Kant, Duhem, Croce, Merleau-Ponty, Gadamer, Ricoeur, Rorty and others are accepted. There is, by this reasoning, no space outside history in which any researcher or any research organization can operate. Consequently there seems to be a clear need for specialist history research within the logic of pure research. The history discipline, however, cannot claim to be the only one interested in historicity and historical context. Those sensitivities have leached into most disciplinary streams. But though the styles of reasoning within those streams might evolve, that does not mean that the disciplines’ primary interests change to history and the historical. Nor does it mean that the individual specialist’s span extends. As knowledge accumulates, specialization proliferates: specialists further refine their fields. There remains the need for deep history specialists regardless of the way disciplinary modes and boundaries may change. Historical consciousness (cultivated memory)\textsuperscript{113} mediates higher-level cognition and deep history specialists are needed in any multidisciplinary project where conceptual change is involved.

The need for history basic research specialists in the direct production of cultural products, however, is less clear. Products are usually developed by development groups, not by the researchers themselves. Within companies there is a distinction drawn between the two functions. The considerations affecting product development are quite different from those affecting research. Similarly, academic research should be an activity distinct from product development; different logic applies. History research in the academy should be driven by quite different considerations than public accessibility or commercial success.

\textsuperscript{113} ‘History is memory cultivated’; Hayden White, “Review Article: Guilty of History: The Longue Durée of Paul Ricoeur”, History and Theory, 46, no. 2 (May, 2007): 235.
CONCLUSION

I have often taken comfort from the reply Henry James made to H. G. Wells: ‘Of course for myself I live, live intensely and am fed by life, and my value, whatever it be, is in my own kind of expression of that. Therefore I am pulled up by the fact that for you my kind (my sort of sense of expression and sort of sense of life alike) doesn’t exist’.

—C.M.H. Clark: *A History of Australia*¹

Life cannot wait until the sciences may have explained the universe scientifically. We cannot put off living until we are ready … Life is fired at us point-blank. And culture, which is but its interpretation, cannot wait any more than can life itself … From all quarters the need presses upon us for a new integration of knowledge, which today lies in pieces … The need to create sound syntheses and systematizations of knowledge … will call out a kind of scientific genius which hitherto has existed only as an aberration: the genius for integration. Of necessity this means specialization, as all creative effort inevitably does; but this time, the man will be specializing in the construction of the whole.

—José Ortega y Gassett ²

In his much criticized, but much misunderstood, inaugural lecture, ‘The Science of History’, J. B. Bury commented that

> There was indeed no historian since the beginning of things who did not profess that his sole aim was to present to his readers untainted and unpainted truth. But the axiom was loosely understood and interpreted, and the notion of truth was elastic.³

Bury had prefaced his remarks by noting that ‘within three generations, three short generations’ history had transformed itself to take ‘no small nor isolated place’ in the ‘far-reaching changes in the geography of thought and in the apparatus of research’.⁴ Today, within another three generations, there have been even more far-reaching changes in the geography of thought and in the apparatus of research; and even greater looseness and

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⁴ Ibid., 3.
elasticity. And, for the academic historian, the looseness in understanding and the elasticity in definition now apply to more than just notions of purpose and truth. Today, traditional notions of the university’s form, missions, and research processes are changing.\(^5\) The academy is no longer elitist, collegial, and cloistered, but open, managed, and ‘virtual’. The, mass, global, digital, ‘postmodern’ age has wrought comprehensive change to the organization, content, economics, politics, and sociology of knowledge. Consequently, traditional notions of the way academic products are produced, and how they reach their audience, are changing. Changing also is the relationship between academic research, scholarship, and pedagogy. As one university vice-chancellor has remarked: ‘Once the gatekeepers to knowledge and authority, universities face a world in which information can be created and distributed without traditional institutions’.\(^6\)

The future of the history discipline as an academic profession depends not on the perennial philosophical question of what historians offer to culture, and the form of that offering, which was represented in the late 1980s by the debate between ‘new’ and ‘old’ history. Rather, it depends now on what historians offer to the research university; specifically, what basic research function the discipline can perform.\(^7\) If it is accepted that basic research operates at the limits of epistemic and ontological understanding, then the function of history within culture, and the form of historiographic products in particular cultures, are subjects for basic research.\(^8\) History as basic research is concerned with cognition and cognition’s individual and collective construction of normativity and culture. It seeks to discover the meaning within and the meaning of those constructions. History’s value to basic research is the fact that the ‘historical’ is a fundamental mode of understanding, thus a fundamental mode of inquiry. The research field for this specialist research is the record of the human past.


\(^6\) Glyn Davis, “From the Vice Chancellor”, *The University of Melbourne Voice*, 1, no. 18. (12 Nov.–26 Nov., 2007).

\(^7\) Given, as this thesis has argued, that a core function of a university is basic research. See also Group of Eight, *Seizing the Opportunities*, 13–14,

\(^8\) But history and historiography continue, nevertheless, to have an important cultural function.
Human experience is derived from time-sequenced raw sensation by the formation of the cognitive categories ‘past’, ‘present’ and ‘future’. Historicity—time’s arrow—is a fundamental ‘dimension’ of human understanding. Similarly, historical consciousness is a distinctive cognitive ‘state’. To understand both phenomena and epiphenomena as something is to know them historically. Mathematics, logic, art, and music can be contemplated ahistorically, as things in themselves, but as things in themselves, although they are affective, they do not mean anything. Human understanding can only exist within historical consciousness. A sense of chronology and genealogy is required if sense is to be made of the physical, psychological, and cultural world in a way that enables life (both physical and social) to be sustained. Sustainable ‘life’ depends on individual and collective memory ‘normalised’ within subjectivity and culture by, respectively, personal and collective ‘history’. But history as a mode and a field of inquiry, and as an essential basic research element, is outside memory and culture. Although it seeks to interpret human experience which, self-evidently, is within physical and cultivated memory, it does so in order to get to that meaning, and from that to new current meaning, hence new knowledge.

But if academic historians can be chivvied to look more closely at their basic research function, then the academy needs to make an appraisal of its underlying organizational and intellectual conceptions. First, it needs to reflect on how research and its management in the academy are conceptualized. Second, the university needs to consider how its engagement with its ‘customers’ (public and government) is conceptualized. Phrases such as ‘the ‘creation of knowledge through significant research’ and ‘knowledge transfer to the wider community’ have become commonplace descriptions of universities’ function, but understandings of what is meant by ‘knowledge’, of how knowledge is validated, of what ‘significant’ might mean, and of what practical and theoretical transformations are required before specialist knowledge can be transferred ‘outside’ to non-specialists, are vague. ‘Discovery’ is not ‘creation’, so what does research discover? Is wisdom discovered? Does basic research create knowledge, or is that done by ‘downstream’ development processes? How are the ideas generated from a dialectical process conducted at the extreme end of
epistemic and ontological understanding made understandable to the non-specialist ‘public’ which does not have the necessary, highly specific, reference knowledge to begin to understand even the question at the heart of the idea, let alone the responses? How are those ideas packaged and delivered? Who packages and delivers them? Or is it some other ‘product’ that is ‘transferred’ to the public; a product developed and ‘packaged’ specifically to be a desirable public-consumption item? Is it any more feasible to expect (as it is currently) the academic to research, develop, package, and sell a complex academic product, than to expect the salesman (or researcher, or developer, or marketer) to do the same for the complex consumer product?

Outside the universities, for-profit organizations of similar size to universities are, by comparison, very clear on these questions. They have clear conceptual models which enable them to locate themselves within a ‘value chain’ and, in their language, convert their inputs to value-added outputs which have extrinsic value. They also understand clearly that they must continually move ‘up’ the chain in order to maintain their competitive position and ensure their survival. Companies such as Nokia, Lockheed Martin, Boeing, and IBM have very clear understanding of the distinction between research, innovation, production, and ‘business’ processes. It is precisely that understanding that enables them to adapt, evolve, and thrive within a harsh, unforgiving, environment. Each of those companies has a clear understanding of the difference between pure basic research, strategic basic research, applied research, experimental development, product innovation, product development, production, marketing, sales, and product support, and of the interaction between those processes. Nokia understands very well the profound conceptual difference between basic research output and a leading-edge product for the retail market. And yet in Australia the government-controlled competitive grant process for research funding makes no official distinction between categories. Basic research is bundled together with other research and development products, then judged on criteria that include national benefit.\(^9\) The basic research proposal (which is

\(^9\) The Australian Research Council mission is ‘to deliver policy and programs that advance Australian research and innovation globally and benefit the community’. 
not only irrelevant but incomprehensible to non-specialists) competes for funding against the product proposal (say, ‘transportation needs of marginalized communities’) which connects more directly to notions of ‘value’ and social utility.\(^\text{10}\) A greater distinction must be drawn between pure basic research and other research by funding authorities if research is to be managed effectively. The deeper problem is that these authorities are providing only tactical (short-term) research management while proclaiming (and, one must assume, believing) it to be strategic management.

Universities, with their much more complex customer relationships,\(^\text{11}\) their much more complex products, and much more complex product mixes, do not have any appropriate conceptual models or business models of the kind used by their for-profit corporate peers. The older tradition of external funding through church, court, state, or other patrons, has meant that it is only relatively recently in the life of the university as institution that the need for these models has arisen. Intellectually, the traditions of collegiality, the separation of disciplines, the emphasis on pedagogy, and the conflation, in the humanities in particular, of scholarship with research, have entrenched the notion of separate spheres of knowledge and the notion of the individual scholar as the focus of all research, learning, and knowledge transfer. In this setting, the notion of integrated knowledge has been the institutional Gordian knot. The paradox of increasing research specialization leading to increasing awareness of the interrelatedness of all physical, biological, cultural, and ecological processes has created a need for institutional processes for knowledge integration that current institutions are incapable of satisfying.

If an effective conceptual model is not established within the university and between the universities and their ‘customer’—‘society’ as reflected through Government and the ‘marketplace’—then the capacity for genuine advances in epistemic and ontological

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\(^\text{10}\) The consequence of this is that even ‘discovery’ grant applications, intended to be pure or strategic basic research, are worded in utilitarian, ‘experimental development’ language—which, even if a ploy, distorts their basic research focus. See, for example, the ‘Section 4301 Historical Studies’ descriptions of successful discovery project applications submitted to the Australian Research Council in 2007, [http://www.arc.gov.au/pdf/DP08/DP08_RFCD.pdf](http://www.arc.gov.au/pdf/DP08/DP08_RFCD.pdf), 347–358. [23 August 2008].

\(^\text{11}\) As public institutions with public obligations but with only partial public funding.
understanding to change social action, locally and globally, in wholly new ways outside current perception, is neutralized. Society will always demand things it wants, but those wants are defined by things known. Thus, a form of epistemic myopia becomes institutionalized. What does society want new knowledge for? Know what? Why know? Is it simply in order to extend life? Or is it to make life easier? If the former, then the question is why? If the latter, the question is, why live? Alternatively, if the object of new knowledge is not existential answers but practical action—approaches that enable society to know how to act in a life that is fired point-blank at it—then what criteria are used to judge ‘intelligent’ from ‘unintelligent’ action?

These are not questions that appeal to Government, nor generally to other funders of research—such as industry—yet they are important and relevant to decisions regarding choices society has to make; and the university is better equipped than alternative ‘contractors’ to explore these types of questions. However, without processes and conceptual models that enable the connection of (apparent) knowledge-for-its-own-sake with (apparent) useful social products, all that will emerge from the university is separate packages of incomplete knowledge, each incapable of addressing whole problems.

Because of the ‘double hermeneutic’ that operates in human understanding, there are neither absolute problems nor absolute answers. Neither the human subject nor culture is a fixed entity, each is self-fashioning and interactive with the other. The university has a unique capability both to explore the future possibilities inherent in this self-fashioning, and to assist with decisions regarding societal self-fashioning. However, more synthesized knowledge is required if intelligent action is to emerge from this exploration.

II

At the centre of the idea of the research university is the notion of curiosity-driven inquiry, ‘knowledge for its own sake’—pure basic research—but at the centre of the research university’s ability to survive is the notion of utility in the form of social value. Unless the university can connect pure basic research to (perceived) current social need, then it will not
survive as a research university. It may survive as an institution whose value is pedagogical or vocational, but it will not continue to exist as an institution whose value (and distinction) is founded in ‘leading-edge’ research. Similarly with the history discipline: unless it understands the difference between its basic research function and its cultural function, it will not have a place in leading-edge research teams and forums.

It was because pure inquiry and social value were integrated in the philosophy behind the founding of the University of Berlin that that institution exemplified the idea of a research university. It was that philosophy which ensured the University’s intellectual authority and financial security. The University of Berlin’s formation represented the happy coincidence of intellectual and political power. In the founding partnership of Fichte, Schleiermacher, and Humboldt there was achieved that fusion of intellectual exploration at its epistemic and ontological limits, with political conviction that that exploration was the most profound contribution that could be made to Prussian society’s future. Prussia’s defeat at Jena, and its subsequent occupation by France, had produced a political resolve to create an existentially independent Prussian state through the development of its citizen’s ‘highest [intellectual/aesthetic] possibilities’. In the first decades of the University of Berlin’s life the intellectual engine, regardless of discipline, was the desire to know more profoundly; to know at the limits of understanding. Whether it was Fichte, Schleiermacher, or Hegel in philosophy, or Niebuhr and Ranke in history, the disciplinary field was simply the means to deeper knowledge of knowledge.

The fact that the Prussian academy, particularly history, later came to be subordinated to culture and national identity was due, in part at least, to the fact that there were no effective institutional processes whereby basic research could be transformed into useful social products. Hegel’s unified theory of reality, and Fichte’s comprehensive philosophy of subjectivity remain today outstanding products of pure (metaphysical) inquiry, and still have research value; but by 1841 in Berlin, when Schelling returned to the University, Hegelianism was perceived to have become remote from ‘real’ life and unable to provide the ethical and

spiritual guidance which had been philosophy’s social _raison d’être_. History replaced metaphysics as the vehicle for the achievement of society’s highest possibilities. Unfortunately, research became subordinated to political utility, and with that change the understanding of what advance meant in relation to knowledge changed.

It is not a coincidence that with this change Prussian academic history subsequently lost its international intellectual authority. Prussian history was no longer judged to be concerned with pure inquiry. The true _advance_ of knowledge, advance in the sense of continuing to move beyond current limits, could (and can) only occur through multi-directional interaction between frontier (basic) research and research’s other ‘downstream’ components. It could not (and cannot) be achieved by a one-way transfer, whichever the direction. In late nineteenth-century Prussia, the flow was from nation to research. Research’s function was to consolidate knowledge of the known entity: German culture and nation. The ‘highest possibilities’ were now manifested in the incorporation into the nation’s citizens of the imagined intrinsic values of this national culture. By the early twentieth century, the higher level of existential _being_ was now the fusion of citizen, nation, and state.

In the universities of Oxford and Cambridge in the nineteenth century, historical inquiry had always been subordinated intellectually to culture and nation. In those institutions, history’s intellectual engine was the desire to produce history that was _useful_; principally, history which provided guidance, not on how to _be_, but on how to _act_. The location of the historian inside or outside the university did not affect the general purpose for which the history was written: any differences resulted from personality. By knowing the story of Britain’s evolution, and learning from the lessons of the past, Britons as individuals, as citizens, and as rulers would be better able to act wisely. History considered moral, religious, social, and political problems. History showed what had been proven to be successful, and unsuccessful, action. Historians wrote for the general reader. Written history was a literary work whose raw materials were the records of the human past. Research _supported_ writing.
The fate of British academic history was the converse of that suffered by history and philosophy in the German academy. In Britain, there were no effective institutional processes whereby history’s useful social products could be grounded epistemologically or ontologically in basic research. Effectively, there was no basic research content, just applied research and ‘product’ development. The consequence was that by the beginning of the twentieth century, history’s epistemological and ontological assumptions could no longer be sustained in the British academy. Historians such as J.B. Bury in Britain and Carl Becker in the US increasingly questioned history’s philosophical foundations. Whereas in the nineteenth century historians as philosophically, technically, and stylistically diverse as Stubbs, Carlyle, Green, and Freeman were all writing quite different, but public-approved, history, in the twentieth century historians as different as Bury, Trevelyan, Butterfield and Namier all claimed to be writing proper history, and each argued that the others were not.

In Australia in the mid- and late-twentieth century, history and its writing were even more problematical. The transportation of ontologically weak Oxbridge models to an existentially uncertain Australia further aggravated the problem of what history and history writing was. The uncertainty this caused was reflected in the diversity of approach represented by historians such as Clark, Crawford and Dening. For Clark, history was literature, and to be great as history it had to speak to that truth of human reality that was beyond words; his history’s historical form was that of Carlyle’s, its literary form that of Dostoevsky’s. Crawford, unsuccessful in his quest to understand how history happened, how necessity and contingency were manifested in life’s actuality, resigned himself to the notion of history as a form of enlarged liberal humanism. In his conclusion that history was ‘inevitably and inescapably a training in moral sensitivity’, at end Crawford equated history with a modernized form of Sentimentalism. For Dening, history was cultural action; historical knowledge was ontological wisdom; historical understanding produced wise action, it enlarged our understanding of how we live, thus how to live. The three historians demonstrated that there are many ways of knowing, because there are many ways of seeing.

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13 See Chapter 2, p. 103.
They wrote about what life moved them to observe.

At the beginning of the twenty-first century, anthropocentricity, which in the previous two centuries had grounded issues of subjectivity, autonomy, cultural authenticity, and human understanding, has now been seen to be just an epiphenomenon of a larger physical, biological, ecological system. Biologically and culturally, not only are individuals and cultures self-fashioning and ever changing—evolving—but so is the notion of the ‘human’. Survival of life on the planet, not liberty, equality, fraternity, seems now to be the primary focus for intelligent thought—once Locke’s ‘social contract’, now Serres’s ‘natural contract’. Life still has to be lived, it cannot wait until solutions are found, but the datum for measuring intelligent action has moved.

III

This thesis was concerned, at its inception, with knowing, not acting. It sought only to explore what the notion of history research meant. An unintended consequence, however, has been that the inquiry has indicated—should the arguments presented be even partially accepted—that there are actions which should be taken to better define, and thereby improve, the management of academic research.

First, there is a need to bring the humanities, arts and social sciences research (Geisteswissenschaften), meaningfully into the formal research categories used for the science and technology disciplines. The Government statistical categories by which research is monitored and measured in its several R&D components are irrelevant currently to HASS research practice. There is no evidence that those categories have any meaningful theoretical or practical affect on current HASS research. It is acknowledged that rigid boundaries are neither possible nor desirable, nor are they easily identified, but there are, in relation to knowledge, critical epistemological differences between basic research, applied research, development, innovation and production which need to be identified and understood. The conduct of research as a common enterprise is not possible without the implications these
Second, there is a need for the conceptual model which defines the relationship between the Australian government, its delegated research management bodies (Australian Research Council, and National Health and Medical Research Council), and the research practitioners, to be redefined so that more effective management of the whole basic-research to mission-accomplishment continuum is accomplished. Better formulation of programs, identification of desired outcomes, allocation of responsibility and separation of pure basic research from performance management demands would allow more effective specialization within and between the different entities, and thus a more productive relationship. The development of acquisition frameworks for the conceptually complex whole-of-knowledge programs will require, itself, concentrated multi-disciplinary academic expertise.

Third, there is a need to develop knowledge models that allow fusion of HASS and STEM pure basic research and integrating processes that enable specialist research to fit epistemologically into specific whole-of-knowledge projects. A new ‘systems design’ function is required at a level ‘above’ that of the specialist researcher. That function ensures that the research whole is greater than the parts. More was needed to land a man on the moon than to allow scientists and engineers to co-locate and mix freely. Whole-of-knowledge research requires similar expertise. If the university is to pursue those programs, then this new specialist capability must be, and can only be, developed by the university.

Finally, there is a need within the university to develop a business model which defines more clearly the place of pure basic research and the relationship between research and the university’s other functions. Pure basic research—wholly undirected research—is an

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essential part of a successful model. Given that whole-of-knowledge research will modify the way research is organized, so it will modify the relationship between research and teaching. Logically, they will remain connected, but the process from pure basic research to delivered form will expand. The model should enable the identification of true academic pure basic research effort from effort which, though currently called ‘research’, is not basic research, nor even strategic basic, or applied, research, but some other experimental development or product development activity. ‘Research’ which does not require specialist academic expertise and academic collaboration for its accomplishment/evolution should not be classified, formally, as ‘research’ in the university research management model. Much history research, undertaken both inside the academy as well as outside, would not satisfy the current formal definition of ‘basic research’. The model would enable the university to better envisage, and thus manage, the spectrum of in-house, consortium, contracted, subcontracted, and individual research which is undertaken either within the university or within ‘virtual teams’. Again, companies such as Nokia, Lockheed Martin, and Boeing have models that could be adapted.

IV

History is the air we breathe—we are ‘hemmed in by history’.15 Thus, ‘history’s’ existence is assured. But academic history is not that history. That history is extrinsic to the function the academic historian performs in the academy. If the discipline is to adapt successfully to institutional and social change, then it must be clear on that difference; it must be clear on what ‘business’ it is in.

Academic history, by ensuring that it identifies how its specialist expertise is needed for the accomplishment of research at the edge of epistemic and ontological understanding, will ensure its continual renewal, and future, in whatever form that may take.

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