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**Discourses of
research policy in New Zealand, 1984-2005:
Neoliberalism, tertiary education
and national science**

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Abstract

This thesis analyses research policy in the fields of New Zealand tertiary education and national science in the period 1984 - 2005. It poses the question: How has what can be done, said and written in tertiary education and science research shifted and how have shifts been constituted in policy and related texts? In addition, the study considers the overlapping and increasing convergence of research policy between the two fields (tertiary education and national science) as an example of what happens to previously discrete areas of policy development and their constitutive discourses under a state logic (and pervasive discursive formation) of neoliberalism. The key hypothesis is that the economic genre has come to dominate research discourses and related practices with increasingly problematic effects.

The study is underpinned by a poststructuralist/postmodern philosophical position which seeks to interrogate, historicise, problematise and politicise dominant research policy discourses. Jean Francois Lyotard's prophetic work, *The Postmodern Condition: A Report on Knowledge* (1984) is mobilised to argue that since at least the 1950s, the western world has been moving into a recognisably different mode of societal organisation and production. In the 2000s the role of technology and particularly computerisation in shaping our societies, identities and, as Lyotard argued, knowledge itself, is indisputable. Lyotard's analysis of the growing importance of innovation and 'techno-science' in the regeneration of international capital is highly pertinent to this study, as is his problematisation of notions of western 'progress' principally through a theorisation of the metanarrative of performativity.

The thesis is also strongly informed by Michel Foucault's work. Of particular interest is his work on the imbrication of power and knowledge, the value of close historical investigations and how subjects become governed and govern themselves through the (usually unconscious) uptake of circulating discourses. For both Foucault and Lyotard the study of ruptures, continuities, emergences and descents in institutional discourses provides evidence on which to base judgements about the limits of what can be said in the institution at any one time. They both advocate studying 'what we know so well' and 'rendering the normal strange' in order to consider how the contours of dominant discursive formations might be constituted and to generate the intellectual resources to explore how matters might be organised otherwise.

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While the University of Auckland has been my almer mater, I have worked at AIT/ AUT in a number of roles for more than eighteen years. Over the last ten years I have been involved in research and (later) postgraduate development at AUT. Consequently I have been fortunate that my working life and research life have informed each other closely. AUT has provided me with a supportive and stimulating home for my research, including a wonderful group of colleagues with whom it has been a pleasure to work. Deserving special mention are: Peter Harwood former Dean of Arts (AIT/AUT) who first encouraged me to enrol in a PhD and my current Dean, Rob Allen who has been supportive of me rearranging a busy job to make the time necessary to complete my PhD research. AUT has financially supported my study and related research development (fees, conference travel etc) throughout. I have been fortunate to work closely with both Charles Crothers and Allan Bell on a number of research projects and they have generously provided feedback on aspects of my thesis at different times. I am especially appreciative of Charles for bringing a stream of new articles and publications to my attention over the past few years. Sarah Lee has provided invaluable moral and practical

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Acronyms

AARE – Australian Association for Research in Education

ACRI – New Zealand Association of Crown Research Institutes

AFWP – Academic Freedom Working Party

AHRC – Arts and Humanities Research Council

AIT – Auckland Institute of Technology

APEC – Asian Pacific Economic Cooperation

ARC – Australian Research Council

AT – Agency Theory

AUT – Auckland University of Technology

AUS – Association of University Staff

BERL – Business and Economic Research Limited

CEO – Chief Executive Officer

CORES – Centres of Research Excellence

CRIs – Crown Research Institutes

CSRIO – Commonwealth Scientific and Industrial Research Organisation

DFEE – Department for Education and Employment (United Kingdom)

DSIR – Department of Scientific and Industrial Research

EFTS – Equivalent Full Time Student

ERMA – Environmental Risk Management Authority

FDA – Food and Drug Administration (of the United States Department of Health and Human Services)

FORST - Foundation of Research Science and Technology

GAL – Global Alliance Limited

GDP – Gross Domestic Product

GE – Genetic engineering

GEM – Global Entrepreneurial Monitoring

GIF – Growth and Innovation Framework

GPS – Government Property Services

GMOs – Genetically Modified Organisms

HERDSA – Higher Education Research and Development Society of Australasia

HRC – Health Research Council

HUMANZ – Humanities Society of New Zealand/Te Whaingā Aronui

ICTs - Information and Communication Technologies

IMF – International Monetary Fund

ITANZ – Information Technology Association of New Zealand

KSA – Key Science Area

LIANZA – Library and Information Association of New Zealand Aotearoa

LSA – Life Sciences Network

MadGE – Mothers against Genetic Engineering

MAF – Ministry of Agriculture and Fisheries

MAI – Multilateral Agreement on Investment

MoE – Ministry of Education

MORST – Ministry of Research, Science and Technology

MIT – Massachusetts Institute of Technology

NERF – New Economy Research Fund

NRAC - National Research Advisory Council

NROs – Nominated Research Outputs

NZARE – New Zealand Association of Research in Education.

NZBR – New Zealand Business Roundtable

NZCER – New Zealand Council for Educational Research

NZPA – New Zealand Press Association

NZUSA – New Zealand University Students’ Association

NZVCC – New Zealand Vice Chancellors Committee

NZVIF – New Zealand Venture Investment Fund

OECD – Organisation for Economic Cooperation and Development

PBRF – Performance Based Research Fund

PCT – Public Choice Theory

PCET - Post-compulsory Education and Training

PGSF– Public Good Science Fund

PSRA – Public Scholarship and Research Agency

PSRWP – Post-school Scholarship and Research Working Party

PTE – Private Training Establishment

QPEC – Quality Public Education Coalition

RAE – Research Assessment Exercise

RCD – Rabbit Calicivirus Disease

R&D – Research and Development

RS&T – Research, Science and Technology

RO – Research Output

RMIT – Royal Melbourne Institute of Technology

RSNZ – Royal Society of New Zealand

S&T – Science and Technology

SIAC – Science and Innovation Advisory Council

SPO – Strategic Portfolio Outline

SPRU – Science Policy Research Unit

STAC – Science and Technology Advisory Committee

STEP – Science and Technology Expert Panel

TEAC – Tertiary Education Advisory Commission

TEC – Tertiary Education Commission

TEI – Tertiary Education Institution

TRB - Tertiary Research Board

UCOL – Universal College of Learning

UGC – University Grants Committee

UK – United Kingdom

UNESCO – United Nations Educational, Scientific and Cultural Organisation

US – United States of America

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Chapter One

Introduction

The interesting thing is to ascertain, not what overall project presides over all these developments, but, how, in terms of strategy, the different pieces were set in place (Foucault in Gordon 1980: 62).

What can we say?

This thesis engages in a critical discursive and historical analysis of research policy in the fields of New Zealand national science and tertiary education. It constitutes a sustained examination of these two ostensibly discrete policy fields over a twenty year period, from the election of the fourth Labour government in 1984, through the three term National-led government in the 1990s to the beginning of the third term of the Labour-led coalition government (the end of 2005). Within the tertiary education sector, research activity is concentrated in the universities and so the emphasis in this study is on those institutions, primarily, although reference is also made to polytechnics and private training establishments (PTEs). The end of the 1980s is significant because at this time science and to a lesser extent tertiary education underwent major institutional restructuring. The study considers the interaction, overlapping and increasing convergence of research discourses between the two fields. In doing this it provides an example of what happens to policy and its constitutive discourses under a state logic (and pervasive discursive formation) of neoliberalism.

The argument is advanced that as a result of the ‘modelling of research as a money economy’ (Marginson and Considine 2000: 171), the nature of and possibilities for research are changed and certain possibilities for real innovation and ‘breakthroughs’ are closed off: ways of literally being able to see and be in our world(s) differently are reduced. In addition, new ways of arranging and focussing research appear to have tolerated little desire or demand for ‘... the skills of criticism [critical reflection], deconstruction and reconstruction for which the university (at least) has been uniquely placed to provide ...’ (Marginson and Considine 2000: 168). A post 9/11 world would seem to demand more rather than fewer of these skills particularly on the part of the west (Olssen, Codd and O’Neill 2004).

The study argues that the discourses which constitute and reconstitute research as an object are often ‘too much on the surface of things’ to contest easily. Therefore a key focus of the

study is to problematise the way we currently conceive, practise and speak about research in New Zealand. Jean Francois Lyotard (1984) observes how influential language has become in western societies particularly in the post World War Two era, both as a constitutive part of everyday life and as an issue to be considered in relation to the production of knowledge and the governance of institutions and societies more generally. He cites the ever-multiplying fields of science concerned with language, debates about the nature of 'modern' society that turn on the ideal of transparent communication and suggests that the social bond may indeed be mostly attributable to language.

Through language, statements and discourse, Michel Foucault argues that power configures and reconfigures, so producing political, economic and institutional regimes of truth which form the realities in which we live our lives (Foucault in Gordon 1980: 133). The position taken in this thesis, therefore, is that policy by its very nature is discursive; it constitutes a position (often only one) and sets a frame for practice. It also constitutes a 'rarity' (that text was produced and no other) (Foucault 1969) that recycles statements from other texts and discourses and offers up its own statements to be repeated contemporaneously and through time. In examining the repeated materiality (Foucault 1969) and therefore 'power' of policy statements the thesis demonstrates how important (perhaps indispensable) discourse theory is to the analysis of policy frameworks, and knowledge policy frameworks especially. The analysis charts the ruptures, descents, emergences and continuities in research discourses over the two fields of science and tertiary education, arguing that knowledge discourses as they developed over the period, but particularly in the late 1990s and 2000s, became progressively more competitive, instrumental, performance focussed, technicist and integrated into economic policy, thus narrowing perceptions of what should and could count as knowledge.

The period being examined has been a time of considerable upheaval for New Zealand. From 1984 the social welfare state that had been hailed as a world first following the enlightened social policies of the first Labour government, elected in 1935, was progressively dismantled by the fourth Labour government and following that, three National/National-led governments. Installed in its place was perhaps the most comprehensive neoliberal state governance in the world (Kelsey 1997). Restructuring the state involved almost all New Zealand's institutions, including education and science. Previously nationally-owned utilities such as electricity, the railways and telecommunications were privatised while still government-funded institutions were hollowed out in terms of expertise (many people lost

their jobs), and capacity to serve the country adequately. For example, the new Ministry of Education established following the dismantling of the large and expertise-heavy Department of Education (described by ‘reformers’ as unwieldy and ‘bureaucratic’), had minimal staffing through the 1990s to cover all sectors from early childhood to tertiary education. It had to outsource much of its policy development work to consultants usually not experienced in the development of educational policy (Rivers 1997). The poorly researched and formulated 1998 white paper on tertiary education (Ministry of Education 1998) was an example of the inadequacies.

During the period this study covers, New Zealand experienced two serious economic recessions: one following the stock market crash of 1987, and the other caused by the collapse of economies in Asia in 1998 (most notably Korea). In addition the country slid down the OECD rankings in terms of GDP to twentieth position from its previous high of fourth place. Many people were laid off work over the period and in a context of user pays, the gap between the haves and the have-nots became more pronounced on every indicator (housing, health, income levels, alcohol and drug use) than it had ever been. The election of a Labour-led coalition government in 1999 promised a break from economic austerity, marketised structures everywhere and a state obsession with efficiency at the expense of social well being. Many in the tertiary education sector in particular were optimistic and looked forward to leadership, coordination and increased funding from government, having watched the universities become progressively run down and under funded over the preceding fifteen years. The 1999 Labour-led coalition came to power advocating a version of the Third Way policies of Tony Blair’s Labour government in the United Kingdom. The Third Way signalled a departure from the strong neoliberal governance closely associated with Margaret Thatcher and Ronald Reagan and instead offered a mixed model of social reconstruction alongside an ethos of economic competition and growth in the interests of building a ‘knowledge society’(Giddens 1998, 2000).

In New Zealand since 1999, attention *has* been given to rebuilding the most vulnerable parts of society. More money has gone into health and education as well as housing and national infrastructure. However, in tertiary education and national science as in many other policy arenas a dominant metanarrative of economic progress has under-girded and provided the key rationale for every major policy initiative. Moreover, the Labour-led coalition in its determination not to alienate capital has left many of the policy tools of neoliberalism in

place, for example, the still marketised structures in the national science system. Further, Labour has instituted new research structures in the universities (the Performance Based Research Fund (PBRF) and the Centres of Research Excellence (COREs)) that are encouraging even more intense individual and institutional competition. Roberts (forthcoming 2006) argues that this trend is well evidenced in the increase in branding of universities in the 2000s as well as a spectacular increase in their advertising dollars.

While some politicians and public servants within New Zealand's strong neoliberal governments of the late 1980s and early 1990s may have had complete privatisation of research institutions in their sights (see for example, Treasury 1987a&b), this did not eventuate since the central role of research in stimulating economic growth in new knowledge economies (which New Zealand governments from the 1990s increasingly aspired to) has been progressively recognised. As in other western jurisdictions, New Zealand governments now want to support research and its variants (innovation, knowledge, information) for their potential to drive the older production-based economy towards a globally competitive, highly technologised knowledge economy. For Labour-led coalition governments since 1999, the trickle down social theory: 'everyone will eventually benefit from a strong economy' has supported its economic priorities. From 2002, the year the Ministry of Education published the *Tertiary Education Strategy 2002/07* (2002a), both tertiary education and national science research were expected primarily to contribute to national economic growth and were institutionally organised to do so through pseudo-marketised and commodified structures. This was in significant contrast to earlier understandings of the purpose and organisation of research which, in the universities, was to further disciplinary knowledge and to apprentice new researchers into disciplinary cultures. In the national science regime the idea had been to develop scientific understandings to promote the greater good of the country over a range of fields, including, but by no means limited to, the economic. There are many similarities across the western world in the policy discourses around knowledge, innovation, science and research (and New Zealand often deliberately copied or adapted these programmes and policies viz: Foresight, the Third Way and PBRF). However, the New Zealand story remains an idiosyncratic one not easily and predictably read off the experiences of other western countries and it is this story which the thesis investigates.

An outline of the thesis

The first three chapters provide the contextual, theoretical and methodological underpinning for the study. The latter six chapters analyse research policy discourses in New Zealand through key policy and related documents. While the chapters alternate between a focus on changes in tertiary education research policy and changes in national science, each chapter also addresses interdiscursivity over the two sites. The thesis progresses more or less chronologically with chapters five and six covering the late 1980s and early 1990s; chapters seven and eight addressing the tertiary education review and the Foresight Project during the mid to late 1990s respectively; and chapters nine and ten concentrating on the work of the Labour-led coalition elected to government in 1999.

Chapter two lays the philosophical and theoretical groundwork for looking at research, knowledge and science in western postmodern societies, with particular regard to New Zealand. It explains how the study is underpinned by a poststructuralist/postmodern philosophical position which seeks to interrogate, historicise, problematise and politicise dominant research policy discourses that have become naturalised to the point of being considered beyond question in many circles. There is recognition that the concept of research is integrally related to the symbiotic development of the modern state, including national research organisations and the modern university. Both grew out of the European Enlightenment, legitimating themselves and their practices through an idea of subject-centred reason, universalism, individualism and the idea that ‘progress’ is good and will continue to benefit ‘mankind’. In this chapter Lyotard’s prophetic work, *The Postmodern Condition: A Report on Knowledge* (1984) is mobilised to argue that at least since the 1950s and possibly since the beginning of the twentieth century, the western world has been moving into a recognisably different mode of societal organisation and production. In the 2000s the role of technology and particularly computerisation in shaping our societies, identities and, as Lyotard argued, knowledge itself is indisputable. Lyotard’s analysis of the growing importance of innovation and ‘techno-science’ in the regeneration of international capital is highly pertinent in this study, as is his problematisation of notions of western ‘progress’ principally through a theorisation of the metanarrative of performativity.

The thesis is also strongly informed by Michel Foucault’s work. Of particular interest is his work on the imbrication of power and knowledge, the value of close historical investigations and how subjects become governed and govern themselves through the (usually unconscious)

uptake of circulating discourses (biopower). For both Foucault and Lyotard the study of ruptures, continuities, emergences and descents in institutional discourses provide evidence on which to base judgements on the limits of what can be said in the institution at any one time and therefore what power is at work. Both philosophers advocate the studying of ‘what we know so well’ and ‘rendering the normal, strange’ in order to consider how the contours of dominant discursive formations might be constituted and to generate the intellectual resources to explore how else matters might be organised.

Chapter three provides the methodological rationale for the thesis, again relying primarily on the work of Jean Francois Lyotard and Michel Foucault. Initially it traverses key studies in the education field that have engaged with a discourse approach to analysing educational policy. This study favours the position of Olssen, Codd and O’Neill (2004), Roberts (2004) and Peters and Roberts (1999) who, like Foucault and Lyotard, take a materialist position to language. That is to say, language matters. It both constructs and constitutes who we are and how we act in the world. Since policy texts are important language ‘products’ that set the framework for action they ought to be examined through a lens that is discursively and linguistically sensitive. Policy texts are important but so are their con-texts (Gale 1999), literally the texts that link policy texts to society at the local, national and international level. For this reason the thesis also relies on media texts and more minor policy documents (for example, Ministry flyers and newsletters) to support and extend the arguments. In the thesis, different texts are subjected to different levels of analysis and deconstruction. Sometimes a few sentences at a time from key policy texts are highlighted and discursively unpacked (see for example chapter eight and the analysis of the Foresight Project). Sometimes key statements (Foucault 1969) or changes in statements are examined closely (see chapter nine and the analysis of the name given to the policy that fundamentally reorganised academic research in 2002, PBRF). Chapter ten includes a lengthy and sustained analysis of a full page advertisement which seemed to imbricate the key strands of the thesis. Analytical terms are also explained in chapter three including discourse, discursive formation, statement and language games.

Chapter four outlines aspects of neoliberal theory explaining briefly how the New Right movement evolved internationally. Included is Peters and Marshall’s (1996) overview of the key tenets of neoliberal theory which highlights: the significance of a commitment to market mechanisms for all institutional arrangements; a fear of ‘big’ government which tends to lead

to privatised or pseudo privatised arrangements for previously public institutions; a strong form of individualism which constructs individuals normatively as consumers; and a favouring of economic modes of analysis over political or other forms. An overview of the experience and politics of neoliberal governance in New Zealand particularly through the 1980s and 1990s is provided. Neoliberalism in New Zealand has been described as being far more virulent than anywhere else in the world (Kelsey 1997, 1999a) and some explanations for why this might have been the case have been offered. From there, key strategies and theories that have been associated with the institutional, cultural and discursive changes in New Zealand are expanded on. The section covers marketisation strategies, explaining how these were used by government as a way of gaining greater policy and funding control over government employed professionals and bureaucrats. The strong impulse towards privatisation is also discussed here, with reference to how this influenced the shape of the national science system in the form of the Crown Research Institutes (CRIs). Public choice theory (PCT) and agency theory (AT) were major drivers of changes to research policy and practices in New Zealand and these are examined. Most recently, agency theory in particular has been applied to New Zealand academics in the form of PBRF. Unable to be trusted to produce quality research without detailed surveillance, individuals can be digitally observed and potentially held to account for the amount (and quality) of research that they generate. The discursive power of neoliberal theory and politics is also discussed in chapter four with particular reference to its ability to colonise realms of society (education, health) previously considered to sit outside the purview of the discourses of macroeconomics.

Chapter five examines research policy shifts in the late 1980s through key tertiary education policy documents. It juxtaposes the hawkish (excuse the pun!) passages on research policy from *Government Management* (Treasury 1987a&b) with the measured, complimentary (to New Zealand academics) and comprehensive NZVCC (New Zealand Vice Chancellors' Committee) -commissioned Watts report (Watts et al 1987). Arrangements for 'PCET' (Post Compulsory Education and Training) research in the Hawke report (Hawke 1988) are considered followed by an extensive analysis of the report of the Post-school Research and Scholarship Working Party (PSRWP 1989). The report was significant because it was this document which won over a rapidly disintegrating Labour government. Rather than face imminent legal action by two universities (Butterworth and Tarling 1994), the government backed down from many of the proposals in the Hawke report (Hawke 1988). Included in these were radical changes to the organisation of research in universities: the complete

unbundling of research and teaching funding in the tertiary education sector and the establishment of a fully contestable system for distributing research funding to academics. Rather, the PSRWP advanced more mainstream and widely recognisable (at the time) ideas of what constituted academic research and explained why it was distinctive from research generated from other organisations. The report of the PSRWP was an interesting case study because while taking a stand against a neoliberal restructuring of tertiary education research, it accommodated and also incorporated neoliberal terms and statements in order to build its case. Indeed it was *required* to do this in its terms of reference (see PSRWP 1989). The report of the PSRWP (1989) gives some idea of how difficult it was for people with quite differing views from those in the neoliberal vanguard to speak and advise outside ‘the discourse’. The PSRWP *had* to produce ‘outputs’, it *had* to advise on how changes in PCET research would take account of changes in the science system and it *had* to address the ‘problem’ of accountability for academic research.

The restructuring of the New Zealand science system at the beginning of the 1990s is the focus of chapter six. It argues that the restructuring occurred against two key and sometimes conflicting policy discourses circulating in New Zealand at the time: one (neoliberalism) emphasised the importance of efficiency and cost cutting in all arenas of government activity and the other, more nascent discourse (in New Zealand at least), was that research, science and technology, far from being an extravagant luxury, held the potential to drive economic growth. The confluence of the two discourses saw an apparent inconsistency in neoliberal governance: rather than wanting to privatise all research, the government was willing to fund and even increase funding in the national science system. However the quid pro quo to this arrangement was that there would need to be a strong focus on research which would result in close-to-market products and patents: profit ‘able’ research. In order to publicly fund national science within a neoliberal framework the government would restructure it completely, disaggregating the functions of policy advice, funding and the production of science in line with public choice theory and agency theory. Paradoxically however, the government stated that it wanted only to fund public good science (as industry should pay for its own R&D) and even went so far as to name the major contestable research fund the Public Good Science Fund (PGSF). Tension arose in the first funding round between funding research for economic growth and funding ‘public good’ research. The debate was played out in the review document, *Report of the Science Funding Review Panel* (Science Funding Review Panel 1991). Whatever the problems, it seemed that few were prepared to admit that they may

have been systemic: a result of the new structures themselves and the commercialised expectations put on research and researchers. University managers appeared to be more interested in jumping on the contestability bandwagon in order to ensure access to further research funding than critiquing the restructuring of New Zealand's science system (see, for example, NZVCC 1991).

Chapter seven analyses tertiary education research policy under the National-led coalition government elected in 1996. It critiques the 'options' for consultation put forward for funding academic research in the green paper (Ministry of Education 1997b) as contradictory and simplistic especially when compared with the extremely comprehensive review of tertiary education led by Rod Dearing in the United Kingdom (Dearing 1997). The responses to the green paper were scathing on nearly all sides (from the Association of University Staff through to the Business Roundtable) albeit for vastly different reasons. The various criticisms highlighted just how inadequate Ministry of Education resources were for developing robust policy. The one sector that did not protest too loudly was the polytechnic sector which continued to be largely supportive of the National government. The sector, able to confer degrees from the early 1990s, saw itself as increasingly on an equal funding footing with the universities, enjoying greater autonomy compared to the pre 1990s when the polytechnics were tightly controlled by the Department of Education.

The subsequent white paper (Ministry of Education 1998) displayed little evidence that consultation from the university sector had been taken account of at all. Plans for research seemed draconian compared to the (by comparison) laissez faire preference in the green paper for research funding to 'follow the student' albeit with a possibility that it would only follow the postgraduate student. The white paper proposed that 80% of tertiary education research funding was eventually to become unbundled from funding for teaching, and was to be made contestable very much along the lines proposed by Hawke (1998), some ten years before. However, the discourses of neoliberal politics were looking increasingly barren in New Zealand in the late 1990s. As economies in like jurisdictions flourished (Ireland and Finland were held up as the shining examples), the New Zealand economy seemed to be diving ever deeper into recession. The National government itself rejected the white paper, seeing it as inadequate for transforming New Zealand into a 'knowledge economy', and quickly moved to replace it with another policy strategy launched just months from the 1999 election. *Bright Future* (Ministry of Commerce 1999) consisted of a series of economic initiatives aimed at

linking business with research in the universities and national science. The programme identified a somewhat belated recognition by the National-led coalition that government support and coordination would be necessary to pull New Zealand out of the economic doldrums. The knowledge discourses at the time constructed universities and other knowledge producing institutions such as national science, as central to the overall mission of building a knowledge economy.

The Foresight national science reprioritising exercise of the late 1990s is the focus of chapter eight. It was primarily through this exercise that the knowledge discourses were introduced into policy circles in New Zealand. Concomitantly, it was also through Foresight that the discursive imbrication of knowledge, technology and science became much more heavily sedimented (Gale 1999). As a reprioritising exercise Foresight was grander, more discursively generative (in terms of the knowledge discourses) and more widely consultative than earlier science prioritising exercises. The idea was to move past the strictures of the heavily marketised reorganisation of science which had proved to be fraught with difficulties and had progressively lowered the morale of scientists. Foresight signalled the first step towards a more collaborative system based on negotiation rather than full contestability over research portfolios. However, at the same time, the programme promulgated a great deal of hyperbole about the importance of competitive behaviours, of exploiting knowledge and of the need to develop new technologies. Its favoured future scenario for New Zealand was a social utopia which had improbably grown out of 'fierce competition between firms' (MORST 1998: 32). In concentrating on building business/science alliances, the universities were left off the MORST radar screen despite being the country's most significant knowledge producing institutions. Like the 1998 white paper (Ministry of Education 1998) Foresight was jettisoned for the *Bright Future* package (Ministry of Commerce 1999) which did include the universities in National's strategy for developing a knowledge economy, albeit from the point of view of the Ministry of Commerce. Nevertheless, Foresight's futuristic, utopian and technologised discourses were recycled into a range of policy documents including *Bright Future* (Ministry of Commerce 1999). Roberts (2004) argues that the uncanny reverberation of elements of the Nga Kahikatea scenario from Foresight (MORST 1998) in Peter Biggs 'vision' for New Zealand in the second section of *Tertiary Education Strategy 2002/07* (Ministry of Education 2002a), produced by the new Labour-led coalition government some four years later, only serves to reinforce just how adhesive neoliberal assumptions about the privatisation of knowledge, the expansion of globalised capital and the importance of

international competition have been, despite changes in governments, including those purporting to be taking a 'Third Way'.

Following the demise of the 1998 white paper, the newly elected Labour-led coalition government undertook a comprehensive review of tertiary education through the Tertiary Education Advisory Commission (TEAC). Chapter nine critiques the new knowledge discourses which framed the review and narrowly constructed an 'innovation' dependent, highly technologised, globally 'connected' future for New Zealand. One major goal of the review was to harness the research power of the universities for increased economic competition for New Zealand. TEAC's ideas for research policy in the tertiary sector were considerably more complex than the one-size-fits-all contestable and laissez faire models of the 1990s, precisely *because* the universities were now deemed to be central to building national wellbeing, particularly in respect of the new knowledge economy. Slaughter and Rhoades (2004: 16) describe the 'new economy' in the following way:

We see the salient characteristics of the new economy ... as being global in scope, its treatment of knowledge as raw material, its non-Fordist production processes, and its need for educated workers and consumers.

During the first term of the Labour-led coalition government, the promise of greater recognition and funding led to a warmer relationship developing between the universities and government. This was most pronounced as the government co-sponsored, along with the University of Auckland, the Knowledge Wave conference in 2001. The timing of the conference in August coincided with the release of the Royal Commission Report on Genetic Modification (Royal Commission on Genetic Modification 2001) and the third TEAC report (TEAC 2001b). Each of the documents highlighted technologised knowledge as central to New Zealand's future. Government, the universities and science institutions all seemed to be singing off the same song sheet particularly when it came to the knowledge and innovation chorus. The Centres of Research Excellence (CORES) were established from 2002 and hailed a new era in New Zealand universities in terms of more generous funding for competitive world class research concentrations. These were overwhelmingly in the sciences rather than humanities or social sciences. And under PBRF, New Zealand academics were finally brought to heel and made accountable as various policy writers and commentators had demanded since the Hawke report (Hawke 1998).

The penultimate chapter of the thesis firstly addresses the discourse of innovation and its path from science policy circles into the whole-of-government knowledge policy discourse in the early 2000s. Through the Growth and Innovation Framework (GIF) (Clark 2002), the science discourse of innovation was inserted into the mainstream (in order to become knowledge 'able', society itself would be required to be 'innovative'). Meanwhile society as a primarily economically (as opposed to socially) conceived entity (under the framework) would be even more reliant on innovative science (science would now be a/the key mechanism for growing the New Zealand economy). The universities were included in the government innovation policy but the effect was to overlay non-scientific university research with techno scientific policy and practice rather than bringing to the fore some of the long held discourses and practices of social science and humanities research (for example, socially and culturally focussed critical, reflective, interpretative, historical and deconstructive work).

The second part of chapter ten provides an extended discursive analysis of a full page newspaper advertisement placed in *The New Zealand Herald* just days from the 2002 national election (Life Sciences Network 2002). The Life Sciences Network, the lobby group that placed the advertisement, announced that they were giving the public 'the facts' on genetic engineering so that the public would be better informed and would therefore vote for a party that would support the lifting of the moratorium on the release of genetically modified organisms into the environment in October 2003. Labour had pledged that it would lift the moratorium and had fallen out with its key potential coalition partner, the Greens, as a result. The difficulty for Labour was that public opinion also seemed to be against the lifting of the moratorium and that votes would migrate from Labour to the Greens as a result. Through the Life Sciences Network, funding for the advertisement and related media packs for politicians came from business, university and national science organisations, the latter two funded primarily through taxpayers' money. The analysis of the advertisement highlights the constructedness of the text (it was designed to 'push all the right emotional buttons'), the cynicism with which the Life Sciences Network was addressing the public, the explicit way in which they were attempting to shift voter behaviour and perhaps, most interestingly, the connectivities between business, science (including the universities) and government.

The final chapter draws together the findings of the thesis. It suggests that the discourses that construct knowledges are constitutive to how society, and particularly democratic society, develops. If knowledge is always produced in the economic genre it constitutes a very narrow

possibility for society. It will fail to produce the cultural knowledge, indigenous knowledges and political checks and balances required for a diverse civil democracy. Demonstrating that this may well have been the case in New Zealand, chapter eleven summarises the discursive shifts and repeated materialities (Foucault 1969) in research discourses over the twenty year period. It considers how some key neoliberal statements such as ‘outputs’ and the concept of splitting research and teaching funding in universities have been strengthened over the intervening twenty years since *Government Management* (1987) and *Economic Management* (1984) and how much of university research has been co-opted along with national science into bolstering economic performance as a first priority.

Following this section there is an outline of possible future research that could be undertaken to supplement the work covered in the thesis. It is suggested that this include: an actor network study of the key non-politician protagonists in the science and tertiary education changes over the 1990s; the role of internal university management in driving changes in university research organisation; the reception of government research policy in researching organisations; ethnographic work on the lifecycle of research projects in different institutional contexts and perhaps relatedly, the impact of marketised systems on knowledge production. The thesis finishes with a reflection on the need to think and speak anew about how research policy and concomitantly knowledge production might otherwise be constituted in its policies and practices.

Chapter Two

Thinking differently about research

We are concerned ... with the insurrection of knowledges that are opposed primarily not to the contents, methods or concepts of a science, but to the effects of the centralising powers which are linked to the institution and functioning of an organised scientific discourse within a society such as ours (Foucault in Gordon 1980: 84).

Introduction

This chapter will explain the philosophical approach underpinning the thesis. In attempting to problematise and analyse changing discursive constructions of research policy in tertiary education and national science in New Zealand since the mid 1980s it is assumed that philosophy and method (approach to analysis) do not exist independently of one another and are, in fact, inextricably related. Heidegger's claim that '... reality is constituted by language and therefore scientific knowledge must be mediated by language' (Delanty 1997: 52) suggests theory and method cannot be disentangled. Delanty (1997: 42) writes:

With Heidegger understanding becomes part of 'being' itself: method and ontology are collapsed into each other Interpretation can never transcend the life-world context for consciousness is not independent of language.

The thesis engages a particular theoretical approach, which may be broadly described as poststructuralist/postmodernist. This position needs to be explicitly stated because it stands as the marked philosophical position. The dominant (or unmarked) view of the world continues to be characterised by positivism and a belief in rational man which has its roots in Enlightenment thinking associated with eighteenth century thinkers such as Saint-Simon, Comte and Spencer (Peters 1997c). Philosophy is important not because it can provide answers or a way of fully apprehending 'reality', but because, as Lyotard (1984: 60) suggests, it enables us to generate ideas, ideas about how things might be improved and what alternative possibilities could have been. Simon Marginson (1997: 7) considers theory to be the '... high ground where questions of interpretation are often settled'. He states:

On this high ground the primary question is that which Sheila Dow (1990) calls 'mode of thought' and Heidegger and Foucault call 'horizon' of thought. Within a particular mode or horizon of thought, only certain things

may appear. By changing the horizon ... new things become visible, while some things visible within the old horizon will vanish (Marginson 1997: 8).

By taking a marked philosophical position (poststructuralism/ postmodernism) this analysis of discourses of New Zealand research policy will attempt to work against the grain of received (dominant/predominant) understandings. The thesis will ask different questions than those most often posed by policy analysts to research policy such as: Is it true? Will it result in excellent research? Is it innovative? Will the research make money? Is it strategic? For example, the work of Lyotard (1984) and Fuller (2000) suggest other questions such as: How is the research political? Whose interests does it serve? Who is funding the research? What path dependencies does it establish? What opportunity costs are there for following a particular line of research in a particular field of knowledge? Is it democratic (i.e. has it been fully and publicly debated in proportion to the resources and opportunity costs being expended)? Many of these questions are brought into sharp focus in the penultimate chapter of this thesis. A full page advertisement advocating the lifting of the moratorium on the release of genetically modified organisms into the environment is analysed for the interinstitutional power relationships it constitutes, in particular those between universities, Crown Research Institutes, business and the government. The advertisement (Life Sciences Network 2002) was attempting to ensure the election of a government which would lift the moratorium in October 2003.

Being after and at the same time: Postmodernism/Poststructuralism

As Delanty (1997: 102) explains, postmodernism is both method, a means of interpretation and a politics: ‘... for postmodern deconstructionists, the act of deconstruction is itself a challenge to power’ He points out that it does this without being able to offer any normative reference points itself, that is, it cannot offer a definitive option. A clear alternative (a proposed path to emancipation) is, in fact, exactly what postmodernism rejects. Accepting that another ‘final solution’ (such as Auschwitz) is not in most people’s interest, Peters (2001) explains that the great advantage of poststructuralist theories is that they can, nevertheless, contest current strains of liberalism very effectively. He writes:

... what is distinctive of the politics of poststructuralism is that its myriad forms provide clear and strong analyses of contemporary neoliberalism as a form of governmentality based on the intimate connection between government and self-government that has been extended and developed

through expert systems and knowledge of human sciences (especially the rising ‘science’ of management). It also provides articulate criticisms that deconstruct, disassemble, and critique the philosophy of the subject inherent in the three assumptions of homo economicus - individuality, rationality and self-interest – as the abstract figure or conception has been revived as the basis for neoliberalism by Public Choice and human capital theorists (Peters 2001: 9).

Peters (1996) makes the point that various writers have conflated the terms poststructuralism and postmodernism and that he himself does not bother to systematically differentiate between the two terms. He characterises postmodernism:

... as a broad cultural and aesthetic phenomenon with its original home in the American and European avant-gardes, in poetics and literary criticism and architecture. The use of the term has been considerably expanded since its early use in the 1950s to apply more broadly to a set of cultural changes (Peters 1996: 19).

Poststructuralism is closely aligned to French philosophy and the Nietzschean critique of Hegel (particularly through Michel Foucault) and western rationality more generally. Peters says: ‘I have restrained the urge to be pedantic by accepting the use of “postmodern philosophy” to include “poststructuralism”, although it is clear that such a move homogenizes the differences among poststructuralist thinkers’ (Peters 1996: 19). More recently Peters has emphasised again that while poststructuralism does characterise ‘... a mode of thinking, a set of critical practices of reading, a style of philosophising and a kind of writing’ it cannot be taken to ‘... convey a sense of homogeneity, singularity and unity’ (2002: 1). Postmodernism and poststructuralism are perhaps most closely identified with the work of Jean Francois Lyotard, Michel Foucault (although Foucault persistently rejected any such label), Jacques Derrida and Gilles Deleuze. My own analysis will draw predominantly on the work of Jean Francois Lyotard and Michel Foucault. Lyotard’s distinctive analysis of the changing status of scientific knowledge in the post-war period is central to understanding research policy in relation to the state. His emphasis on the plurality, constant proliferation and non translatability of language games stands in critique of notions of the unity of language and the subject, while his concept of performativity, the optimisation of the performance of the system through the application of the principle of efficiency (strict measurement of inputs and outputs) assists in an understanding of how technology, science and capital are co-dependent and co-legitimizing.

Foucault's analysis of the interrelationship between knowledge, power and discourse is highly compatible with Lyotard's work. In particular, it is through Foucault's research analysing how human beings become certain types of subjects that the important question of governmentality and self governmentality is raised. Edward Said, for example, has said that Foucault's greatest intellectual contribution was his ability to explain how those with a will to exercise control (and particularly societal control) were able to establish their legitimacy through a carefully constructed language '... of truth, discipline, rationality, utilitarian value, and knowledge' (Said 1978: 705). He goes on to note that '... this language, in its naturalness, authority, professionalism, assertiveness, antitheoretical directness, is what Foucault has called *discourse*' (Said 1978: 705). And as Foucault and Lyotard have argued, individuals and subjects are always positioned in relation to discourse. Arguably, discourses of research policy in the context of the university and government science constitute these qualities of 'naturalness, authority, professionalism and assertiveness' more insistently than many others.

The position taken in this thesis might be described as a 'post' position. This allows for the fuzziness and crossover between postmodern theory and poststructuralism. It also conveys a sense of coming after or being outside the big stories of our time, a place from whence to pose the problem of our situation. It includes an attitude of interrogation of the modern (characterised by Foucault as a heroising of the present (Dreyfus and Rabinow 1982: 40)) and sees truth, reality and science as constructions of language and culture rather than ideas which can provide an objective judgement for all people, for all time. While a 'post' position does have many different variants, there are some defining points around which ideas have coalesced. These are, broadly speaking, an unwillingness to take for granted the key narratives which many material (and particularly scientific) practices in the west (including the formulation of policy) seek legitimacy in, a refusal of subject-centred reason, a belief in the imbrication of knowledge and power, and a conviction of the centrality of language in (largely if not completely) constituting the social bond.

An incredulity toward metanarratives

For Lyotard, the 'advanced societies' in the post second world war period are marked by a legitimisation crisis. He contends that the grand narratives of the Enlightenment, '... the dialectics of Spirit, the hermeneutics of meaning, the emancipation of the rational or working subject, or the creation of wealth' (Lyotard 1984: xxii) have lost credibility. In the face of reinvigorated capitalism, the concomitant failure of state-sponsored communism, the

ascendancy of the performativity criterion inherent in techno-scientific knowledge, the demise of Christianity and the global ecological crisis, we know that we cannot be 'saved'. There is no utopia to aim for and the story of western progress is a solipsistic one which confuses '...development with the progress of consciousness and civilisation' (Schultz 1998:1). There is no total solution to the problems of the west or humanity and Auschwitz has demonstrated that if there was one it could well be more terrible than the current situation.

Lyotard believes that the key factor in the 'crisis' of narratives, was the dissolution and break up in the unity of scientific knowledge. The splintering and concomitant multiplicity of the language games of science (and science has been revealed as just one language game among many) means that there is no one way or language with which to discuss and therefore understand all these things (although some language games may become dominant). Lyotard writes:

... nobody speaks all those languages, they have no metalanguage, the project of the system-subject is a failure, the goal of emancipation has nothing to do with science, we are all stuck in the positivism of this or that discipline of learning, the learned scholars have turned into scientists, the diminished tasks of research have become compartmentalized and no one can master them all. Speculative or humanistic philosophy is forced to relinquish its legitimation duties ... (1984: 41).

The aim of philosophy outside of modernity, then, has become the work of speaking only one language among many. No longer a meta-activity for legitimating science, philosophy can find its job in '... detect(ing) differends (a cognitive task) and ... bear(ing) witness to them (an ethical obligation)' (Peters 1995: xxxi).

Ironically, while the constituent language games of science have multiplied until they are no longer mutually intelligible; the metanarrative of science has itself become a language game which has increasingly dominated a host of other discourses, including those of tertiary education. A key argument of the thesis is that the language games of science policy (research for economic growth, efficiency, contestability, competition and accountability) have increasingly colonised research policy in tertiary education in the New Zealand context. Already we have seen the narrowing of fields of knowledge production as a result.

Lyotard names the rupture in the projectile of western 'progress', the splintering of language games and the questioning that has arisen from it, the postmodern condition. In its most

simple interpretation this represents ‘an incredulity towards metanarratives’. Lyotard sees this state and practice not as something that comes after modernity but as a closer interrogation of modernity itself as well as a recovery of the deep memories which modernity has forgotten. William Bain (1995), referring to Lyotard’s *The Postmodern Explained to Children* (1992) describes it this way:

It (postmodernism) ... is not a wholesale rejection or a totalizing critique. It is not a radical overcoming ... but rather a transformation, a working through ... the conceptual and institutional apparatuses of modernity. It is also a remembering, a recollection of the presuppositions and forgettings that modernity cannot or will not face (Bain 1995: 9).

For Lyotard the postmodern is a self-correction mechanism, always part of the modern, always the beginning of the modern, always a different way of interpreting the modern. As Lyotard asserts: ‘I have said and will say again that postmodern signifies not the end of modernism, but another relation to modernism’ (Lyotard 1988a: 277). This state leads to a questioning practice, a continual problematisation of givens.

Techno-science and performativity

One of the defining points of postindustrial societies is the centrality of knowledge, and particularly computerised knowledge, to the workings and continual regeneration of capital. Where labour was once a key means of production, knowledge has supplanted its primacy. Knowledge finds centre stage in a global market with its most valuable tool of distribution and storage being the computer and the new virtual technologies. Knowledge is now a commercial product to be bought and sold on the global market. More than twenty years ago Lyotard (1984: 4) prophetically wrote:

The relationship of the suppliers and users of knowledge with respect to the knowledge they supply and use is now tending, and will increasingly tend, to assume the form already taken by the relationship of commodity producers and consumers to the commodities they produce and consume – that is the form of value. Knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorised in a new production: in both cases, the goal is exchange.

Lyotard’s argument is that a particular type of knowledge, techno-scientific knowledge, has become inextricable to the generation of capital. The amassing of capital has become dependent on the nexus between capital, technology and science. Together they work to

produce a general logic of performance which drives the global system. Firstly, Lyotard explains how capital and technology became interdependent:

... no technology without wealth, but no wealth without technology. A technical apparatus requires an investment; but since it optimises the efficiency of the task to which it is applied, it also optimises the surplus-value derived from this improved performance. All that is needed is for the surplus value to be realised, in other words for the product of the task performed to be sold. And the system can be sealed in the following way: a portion of the sale is recycled into a research fund dedicated to further performance improvement. It is at this precise moment that science becomes a force of production, in other words a moment in the circulation of capital.

It was more the desire for wealth than the desire for knowledge that initially forced upon technology the imperative of performance improvement and product realisation (Lyotard 1984: 45).

The connection between science, technology and the principle of performativity was established as the requirement to observe and produce better and more accurate proof went beyond the capabilities of the human senses. Lyotard explains that once scientific experiments became so intricate that they could not be observed by the human senses, technology had to be employed. Technology literally served in the role of a prosthetic aid:

... for the human organs or as physiological systems whose function it is to receive data or condition the context. They follow a principle and it is a principle of optimal performance: maximising output (the information or modifications obtained) and minimizing input (the energy expended in the process). Technology is therefore a game pertaining not to the true, the just or the beautiful, etc., but to efficiency: a technical 'move' is 'good' when it does better and/or expends less energy than another (Lyotard 1984: 44).

Fuller (2000: 125) suggests that with current developments, the role of expert technological systems may soon be extended to the role of hypothesis testing, thus extending the logic of performativity to '... the inner sanctum of scientific reasoning itself'.

Lyotard contends that while society itself has broken up into 'clouds of sociality', 'a pragmatics of language particles' a 'heterogeneity of elements' (Lyotard 1984: xxiv), decision makers in bureaucracies and multinational companies alike try to manage these dissonant factors through the relatively new meta-narrative of performativity gained through technology: the desire for high performance and maximum efficiency. An obsessive drive

towards greater and greater efficiency in the system (most often underpinned by an economic logic of saving money or producing profit) paradoxically has the potential to kill the system altogether through ecological and associated human degradation (Lyotard 1997). Certainly, efficiency has as its goal the narrowing rather than proliferation of diversity and one does not need to look very far to see how this translates to the narrowing of biodiversity. A clear alternative to the performativity principle is not obvious or even desirable as any metanarrative purporting to speak for all (the greater good) will inevitably do violence to some. Hence, in *Le Differend*, Lyotard notes that the work of politicians *ought* to be to pursue ‘the lesser evil’, ‘Or if you prefer, the lesser evil ought to be the political good’ (Lyotard 1988b: 140). Rather than mourn the loss of an imaginary arcadic past and dreading a totalising (and equally, possibly more violent) solution, postmodern philosophy rather works in specific, local, contextualised and cultural ways to change how we speak, read and exist in the world.

Narrative knowledge and science

Lyotard (1984) reminds us that far from science being coterminous with knowledge, the two are not the same thing. Rather, science is one branch of knowledge. He suggests that the requirements for something to count as knowledge go well beyond the denotative statements of science (it is a fact that, there is proof that), although knowledge does include these. Knowledge, in the postmodern condition, is contextualised and culture bound. Given the current focus on research and, concomitantly, knowledge policies, Lyotard is worth quoting at length on this:

... what is meant by the term *knowledge* is not only a set of denotative statements, far from it. It also includes notions of ‘know how’, ‘knowing how to live’, ‘how to listen’ (savoir faire, savoir-vivre, savoir-ecouter), etc. Knowledge then is a question of competence that goes beyond the simple determination and application of the criterion of truth, extending to the determination and application of criteria of efficiency (technical qualification), of justice and/or happiness (ethical wisdom), of the beauty of a sound or colour (auditory and visual sensibility), etc. Understood in this way, knowledge is what makes someone capable of forming ‘good’ denotative utterances, but also ‘good’ prescriptive and ‘good’ evaluative utterances It is not a competence relative to a particular class of statements (for example cognitive ones) to the exclusion of all others. On the contrary, it makes ‘good’ performances in relation to a variety of objects of discourse possible: objects to be known, decided on, evaluated,

transformed From this derives one of the principal features of knowledge: it coincides with an extensive array of competence-building measures and is the only form embodied in a subject constituted by the various areas of competence composing it The consensus that permits such knowledge to be circumscribed and makes it possible to distinguish one who knows from one who doesn't (the foreigner, the child) is what constitutes the culture of a people (Lyotard 1984: 18 –19).

One of the hypotheses of this thesis is that the New Zealand knowledge discourses of the late 1990s and early 2000s narrowed perceptions of what should and could (in the sense of what would be funded and supported) count as knowledge. Far from the generous and expansive definition offered by Lyotard, the discursive construction of the generation of knowledge (research) in New Zealand's knowledge policy documents was most often restricted to that which satisfied the efficiency criterion and would generate a profit.

Lyotard discusses a different type of knowledge which he says has always existed alongside scientific knowledge and prior to it, that is, narrative knowledge. Narrative knowledge is roughly equivalent to everyday and traditional knowledge and he maintains that it has always been the preeminent generic form in which cultural knowledge has been passed on through the ages. Lyotard explains:

Narratives ... determine criteria of competence and/or illustrate how they are to be applied. They thus define what has the right to be said and done in the culture in question, and since they are themselves a part of that culture, they are legitimated by the simple fact that they do what they do (Lyotard 1984: 23).

Lyotard himself later observed that he had overstated the significance of narrative knowledge and indeed the binary distinction does intuitively seem rather too sharp. Also, the idea that legitimation might be sought through tradition alone was not at all an attractive prospect for Lyotard (1988b: 181). Nevertheless, as a working concept the juxtaposition of the two types of knowledge has considerable potential to drive analysis and explanation, particularly in an examination of research policy where scientific, 'appropriable' and for-profit knowledge is continually privileged over other types of knowledge.

Lyotard (1984) notes that scientific knowledge can be distinguished from all other types of knowledge because, rather than confining itself to pointing out useful regularities it wants to say that it seeks the truth and it can do this by proving proof. Because of this grand claim it

needs to ‘... legitimate the rules of its own game’ (Lyotard 1984: xxiii). However, science can never establish its legitimacy beyond the consensus of its own community of experts (because nobody else speaks the same language). This leaves a problem for science and its supporters: how do scientists engage with the public sphere? What techniques of communication can they employ to convince the public, who do not share their scientific discourses and have different ideas about truth and proof, that their science is ‘good’ and in the public’s best interests, and even more importantly, should be paid for from the taxpayer dollar?

In order to gain public support, science and its government and business supporters have to turn to the knowledge science apparently despises: popular, everyday or narrative knowledge; knowledge which ‘... does not give priority to the question of its own legitimation (but which) certifies itself in the pragmatics of its own transmission without having recourse to argumentation and proof’ (Lyotard 1984: 27). In other words, science has to resort to telling stories about itself:

They [scientists] play by the rules of the narrative game; its influence remains considerable not only on the users of the media, but also on the scientist’s sentiments. This fact is neither trivial nor accessory: it concerns the relationship of scientific knowledge to ‘popular knowledge, or what is left of it. The state spends large amounts of money to enable science to pass itself off as an epic: the state’s own credibility is based on that epic, which it uses to obtain the public consent its decision makers need (Lyotard 1984: 28).

An example of just such a situation is analysed in chapter ten of this thesis.

Lyotard contends that it is local, contextualised knowledge and small stories that need to be the basis for organising our institutions and our lives. The resistive and ethical moment for Lyotard is in these *petit recits* – culturally grounded, non-universalist, non-foundationalist and non-exclusionary forms of talking about and understanding ourselves that do not require an accountability to a metanarrative (especially that of performativity).

Truth and knowledge

A post position is highly suspicious of claims to truth and the truth of proof (and its referent ‘reality’), seeing these as culturally constructed positions which in the end can never legitimate themselves outside of their own discourse. Foucault talks instead of statements

being 'true' if they carry institutional force and therefore some authority (Foucault in Gordon 1980). Any statement will be true for particular people at a particular time but given a different context another statement would have made other truth claims. According to both Foucault and Lyotard, this position has an effect on the claims of scientists. They are only ever capable of speaking truth from the discursive frameworks available to them:

... there are limits to what can be thought and, particularly, there are limits on what can be classified as 'knowable' For Foucault, all knowledge is determined by a combination of social, institutional and discursive pressures (Mills 1997: 33).

Lyotard's position is similar, he asks:

"How do you prove the proof?" or, more generally, "Who decides the conditions of truth?" It is recognised that the conditions of truth, in other words, the rules of the game of science, are immanent in that game, that they can only be established within the bonds of a debate that is already scientific in nature, and that there is no other proof that the rules are good than the consensus extended to them by the experts already (Lyotard 1984: 29).

Lyotard goes so far as to suggest that science's demand for truth and proof and its disdain for any language game that does not require the same of its participants is violent. He juxtaposes scientific knowledge with narrative knowledge which '... does not give priority to the question of its own legitimation and ... it certifies itself in the pragmatics of its own transmission without having recourse to argumentation and proof' (Lyotard 1984: 27). He goes on to explain the relationship between the two types of knowledge:

... (narrative knowledge's) incomprehension of the problems of scientific discourse is accompanied by a certain tolerance: it approaches such discourse primarily as a variant in the family of narrative cultures. The opposite is not true. The scientist questions the validity of narrative statements and concludes that they are never subject to argumentation or proof. He classifies them as belonging to a different mentality: savage, primitive, underdeveloped, backward, alienated, composed of opinions, customs, authority, prejudice, ignorance, ideology. Narratives are fables, myths, legends, fit only for women and children. At best, attempts are made to throw some rays of light into this obscurantism, to civilise, educate, develop.

This unequal relationship is an effect of the rules specific to each game. We all know its symptoms. It is the entire history of cultural imperialism from the dawn of western civilisation (Lyotard 1984: 27).

Interestingly, policy discourse (perhaps especially that emanating from Ministries of Research, Science and Technology and Education as well as policy statements from universities) tends to be particularly authoritative and certain of its own truth claims. It is a paradox that these claims are often not substantiated or even defended in scientific terms. Rather, the authors mobilise narrative knowledge as a way of staking their discursive ground. One example of this is the fictional scenarios produced as part of the Foresight exercise by the Ministry of Research Science and Technology in the late 1990s (Ministry of Research Science and Technology 1998). Not only were the scenarios central to the structuring of the Foresight exercise for national science but the concepts from the favoured scenario, *Nga Kahikatea*, appeared to be recirculated as a ‘shared vision’ in the *Tertiary Education Strategy 2002/2007* (Ministry of Education 2002) under a different government (Roberts 2004). The idea in both ‘vision statements’ was that New Zealand would work together as a nation to achieve economic prosperity and competitiveness yet would still be able to value its cultural diversity. However, this was a certain type of diversity, as Roberts (2004: 360) explains: ‘Diversity is acceptable, provided it accords with – or, indeed *helps fuel* - the dominant narrative of harnessing knowledge to become more economically competitive on the world stage’.

This ‘problem’ of universalist scientific claims and their close discursive partner, economic performance, is exacerbated in western society because not only are truth and proof cited in the validation of dominant forms of knowledge, thus claiming a superior status for themselves, but these very conditions are at the heart of the legislature as well. They are the undergirding conditions for the macro and micro organisation of western society.

The question of the legitimacy of science has been indissociably linked to that of the legitimation of the legislator since the time of Plato. From this point of view, the right to decide what is true is not independent of the right to decide what is just, even if the statement is consigned to these two authorities differ in nature. The point is that there is a strict interlinkage between the kind of language called science and the kind of knowledge called ethics and politics: they both stem from the same choice if you will – the choice called the Occident (Lyotard 1984: 8).

Lyotard draws the parallel again later:

The people debate among themselves about what is just or unjust in the same way that the scientific community debates about what is true or false; they accumulate civil laws just as scientists accumulate scientific laws; they perfect their rules of consensus just as the scientists produce new ‘paradigms’ to revise their rules in light of what they have learned (Lyotard 1984: 30).

As noted above, a post position sees scientific knowledge not as something superior to all other types of knowledge and its conditions of truth and proof something that all other types of knowledge have to meet in order to be considered worthy or of equal status. The pursuit of scientific knowledge is rather a cultural enterprise that is ultimately unable to be self-legitimizing. Science depends on narrative knowledge for its legitimation (whether scientists are able to recognise this or not). Lyotard (1984) therefore contends that science ought to concern itself with the observance of useful regularities rather than with making statements of universal truth. Science is renovated in the postmodern condition when it is able to make its own decisions away from the performance criterion of administrators and managers. Lyotard (1984: 60) contends:

Postmodern science – by concerning itself with such things as undecidables, the limits of precise control, conflicts characterised by incomplete information, ‘*fracta*’, catastrophes, and pragmatic paradoxes – is theorising its own evolution as discontinuous, catastrophic, nonrectifiable and paradoxical. It is changing the meaning of the word knowledge, while expressing how such a change can take place. It is in producing not the known, but the unknown. And it suggests a model of legitimation that has nothing to do with maximised performance, but has as its basis difference understood as paralogy.

Paralogy, or disagreement, is based on the idea of the return of the narrative (Lyotard’s *petit recit* or small story) in discourses of legitimation e.g. the study of open systems, local determinism, antimethod (Lyotard 1984: 100, note 211). Lyotard considers this to be the correct basis for legitimation and not calls for universality, consensus and objectivity. Postmodern science, legitimated by way of a temporary understanding or contract (rather than a universal one) respects the desire for the unknown. This amounts, Lyotard suggests, to legitimation by ‘the temporary contract’ which has its own inherent problems ‘... the temporary contract is favoured by the system due to its greater flexibility, lower cost, and the creative turmoil of its increasing motivations – all these factors contribute to its increased

operativity' (Lyotard 1984: 66). At least, however, it is ambiguous and not able to be totally subordinated to the system.

The accompanying desire for justice, Lyotard believes, can be satisfied in a recognition of the 'heteromorphous nature of language games', understanding that any attempt to resolve these and settle them for good would involve the silencing of at least one side, which would mean the exercise of terror. This is unacceptable. He wants instead to define any rules upon which language games are played locally and finitely (they are open to cancellation at the end of the game). This idea also involves paralogy understood as disagreement or the 'introduction of dissensus into consensus' (Fritzman 1995: 61). As Fritzman has further argued, 'A rhetorical reading of the Hegelian corpus shows that while Hegel assumes that the end of communication is consensus, consensus is not the goal of communication, but rather its death. Discourse can be kept alive once it is seen that disagreement, paralogy, is its end. Disagreement as the end of communication allows a traversing of the Hegelian dialectic that succeeds in escaping its recuperative moment' (Fritzman 1993: 57–58).

Power and knowledge

Both Lyotard and Foucault's understanding of relations of power are intimately connected to the production of knowledge and questions of truth, as examined in the preceding section. Power can only exist within a constituted field of knowledge, while knowledge, concomitantly, presupposes and constitutes power relations. Foucault points out:

There can be no possible exercise of power without a certain economy of discourses of truth which operates through and on the basis of this association. We are subjected to the production of truth through power and we cannot exercise power except through the production of truth (Foucault in Gordon 1980: 93).

This Foucauldian analysis of power seeks to show how institutions posing as neutral and independent (in the New Zealand context we could think of the Ministry of Research Science and Technology and the universities as examples) are producers of and are constructed by relations of power (political relations) in very interested ways. The partiality and constructedness of their positions can be analysed and 'told'. However, from a post position power is not only or ever a top-down exercise that is imposed on helpless lesser beings. Power is everywhere. McHoul and Grace (1993: 84) explain:

Power is nothing more and nothing less than the multiplicity of force relations extant within the social body. Power's conditions of possibility actually consist of this moving substrate of force relations: the struggles, confrontations, inequalities, transformations and integrations of these force relations. Thus we are 'positioned' within any struggle only as a consequence of the existence of a struggle for power.

Far from being nihilistic, as poststructuralism is often accused of being, the position offers very productive possibilities for change and transformation. If power is everywhere then there is always the possibility of resisting and exercising power. Importantly, Foucault's work strongly suggests that both power and its resistance can only be at the level of discursive cultivation – producing and circulating different ways to say, know and understand things (see, for example, Foucault in Gordon 1980). Foucault's notion of power and struggle aligns closely to Lyotard's theory of the social bond as a thickly woven fabric of language games where, Lyotard (1984:15) contends, everyone is '... in a fabric of relations that is now more complex and mobile than ever before. Young or old, man or woman, rich or poor, a person is always located at "nodal points" of specific communication circuits, however tiny these may be through which various kinds of messages pass'. Lyotard (1984) points out that everyone has some power over the messages that position them. While this allows for resistance through a 'new move', the new move is also, paradoxically, the key to the energy force of capitalism – that which prevents capitalism coming up against the limits of its own existence.

Being critical and historical analysis

This analysis of power, knowledge and truth and their imbrication would suggest that a post position be very sceptical about all claims to knowledge and truth – but perhaps particularly its own. 'Being critical' has often been associated with a Marxist analysis of power and the suggestion that a greater (truer?) truth can be revealed or unmasked through critical analysis. This idea is most often associated with the Frankfurt School and Jurgen Habermas and his argument for consensus between rational minds. Lyotard is strongly opposed to the position, contending that once the west increased communication with other cultures and languages during the nineteenth century consensus as an ideal became untenable. He contends that in requiring consensus, voices and therefore people would have to be silenced:

... the rule of consensus between the sender and addressee of a statement with truth-value is deemed acceptable if it is cast in terms of a possible unanimity between rational minds: this is the Enlightenment narrative in

which the hero of knowledge works toward a good ethico-political end – universal peace ... if a metanarrative implying a philosophy of history is used to legitimate knowledge, questions are raised concerning the validity of the institutions governing the social bond: these must be legitimated as well. Thus justice is consigned to the grand narrative in the same way as truth ... (Lyotard 1984: xxiv).

A post position would consider the aim of detecting a ‘truer’ truth futile, an impossible dream, arrogant and ultimately violent in the silencing it would demand of others. As suggested previously, questioning and working discursively at maintaining an incredulity towards metanarratives is an ongoing political and ethical obligation that does not demand the insistence of truth.

Among these debates on the ‘left’, it is worth remembering that the point of problematising practices or being critical is to question and intervene in issues of social inequality, to alleviate pain and suffering in the world and to work towards social transformations. This work sounds very grand (perhaps even patronising) but a post position reminds us that it can only ever be done in local, specific and partial ways to avoid any totalising solution. Pennycook (2001: 7) underscores this idea in his argument for a critical applied ‘post’ linguistics. He says: ‘... amid all the discussions of different critical approaches ... it is worth reminding ourselves that it is perhaps compassion, ... a compassion grounded in a sharp critique of inequality, that grounds our work’. The idea of critique, then, should be to improve and change things. From a post position, being critical requires a discursive intervention, a reconfiguration of the power relations within the discursive regime, a new language move or new rules for the game. These different ways of speaking and acting will always be political although not in a rigid way: ‘... the political and indeed the ethical can be seen less in terms of dogmatic claiming of moral and political certitude and more in terms of an ability to politicise anew’ (Pennycook 2001: 173). While Pennycook renovates the term for his own ends in mapping out a critical applied linguistics, he notes how domesticated the word has become in applied linguistics where (this is also true for education generally), for example, the term ‘critical thinking skills’ promotes an objectivist view of language and text where students might be asked to evaluate text in terms of its credibility, purpose and message, as though these were transcendent qualities.

A ‘post’ notion of being critical alters the power and status of the intellectual. With the demise of the universal metanarratives of rationality, Christianity and emancipation, ‘... the

universal intellectual, whose task was to speak the truth to power in the name of universal reason, justice and humanity is no longer a viable figure; the reign of that individual is over' (Foucault in Rabinow 1991: 23). Foucault is more concerned to work with specificity and critical historicism engaging in a problematisation of the present to show 'that which is has not always been' (Foucault 1990: 37). Through his work Foucault has implied that things could have turned out differently, that there is nothing intrinsic or 'natural' about the present. He refers to this as an 'ontology of the present', '... an interrogative practice rather than a search for essentials' (McHoul and Grace 1993: viii). Foucault's work, rather, is engaged in charting the historical events that have led to subject/objects being constituted as they are.

For Foucault being critical is a philosophical attitude '... 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' (Foucault in Rabinow 1991: 50). It is also of course and perhaps most importantly the work of transforming our own thinking '... which, for Foucault at least, can be the only reason for doing philosophy in the first place' (McHoul and Grace 1993: 125). Not only can intellectual work be a specific critical intervention in its own right but, Foucault (1979b) has pointed out in *Discipline and Punish* that detailed academic work, including close historical description, can serve the needs of others taking direct political action as well. In other words, close studies of official techniques of regulation, surveillance, normalisation and punishment provide the necessary resources for those groups interested in the subversion of those very techniques.

The intellectual no longer has to play the role of an advisor. The project, tactics and goals to be adopted are a matter for those who do the fighting. What the intellectual can do is to provide instruments of analysis, and at present this is the historian's essential role. What's effectively needed is a ramified, penetrative perception of the present, one that makes it possible to locate lines of weakness, strong points, positions where instances of power have secured and implanted themselves by a system of organisation dating back over 150 years. In other words, a topological and geological survey of the battlefield – that is the intellectual's role (Foucault in Gordon 1980: 62).

It will already be apparent then that a post position requires a different view of history. History is not conceived of as one long unbroken story of progress and continuity (and man), having its origins in the creation of the earth and finding its ultimate realisation in our current state. Progress and therefore our histories are seen as local, temporally specific, culturally defined, multicultural and marked by contingency and disjuncture (Foucault in Gordon 1980:

49-50). Foucault's works and particularly his own histories most clearly illustrate this insistence on the futility of looking to the past for truth, origins and 'influence' on the present. In his rejection of the historiography of thought Foucault instead opts for a close textual tracing back of specific changes which have taken place (see, for example Foucault (1979b)). Mills (1997: 60) writes: 'A Foucauldian discontinuous model of history simply charts the shifts which take place within the machinery of thinking.' Approaching history in this way,

... does not mean that it is not possible to be critical, but there are limits to what can be thought and, particularly, there are limits on what can be classified as 'knowable'. The position within ideology of false consciousness assumes that there is a consciousness which is not false (the position of critique); for Foucault, all knowledge is determined by a combination of social, institutional and discursive pressures, and theoretical knowledge is no exception (Mills 1997: 60).

Some of this critical knowledge will challenge dominant discourses (Lyotard's metanarratives) and some will be complicit with them (because it is hard if not impossible for us to be completely outside the discourses which construct us). Foucault, like Lyotard, points out that there can be no perfect alternatives anyway, only specific and localised transformations. Yet these more modest projects are worth the effort because over time, and cumulatively they can change the way we say, be and do (Foucault in Rabinow 1991).

Where/what /who is the subject?

Closely related to the idea that history can no longer be seen as a linear, unbroken narrative of man's progress from the dawn of time until the current moment, is the subject of that narrative: rational, autonomous man. As Foucault and others (following Nietzsche) began to understand history as liable to rupture and discontinuity and unable to be returned to a common and knowable origin, so the idea of the subject came under closer scrutiny. Mills (1997) suggests that it is Foucault's insistence on decentering the subject that clearly marks him out as a poststructuralist, thus questioning the very basis of liberal humanism 'rooted as it is in the notion of the individual self with agency and control over itself' (Mills 1997: 34).

Foucault says:

One has to dispense with the constituent subject, to get rid of the subject itself, that's to say, to arrive at an analysis which can account for the constitution of the subject within a historical framework. And this is what I would call genealogy, that is, a form of history which can account for the

constitution of knowledges, discourses, domains of objects etc. without having to make reference to a subject which is transcendental in relation to the field of events or runs in its empty sameness throughout the course of history (Foucault in Gordon 1980: 117).

The idea that there has ever been an autonomous individual subject is not accepted by Lyotard either: ‘... no self is an island; each exists in a fabric of relations that is more complex and mobile than ever before. Young or old, man or woman, rich or poor, a person is always located at ‘nodal points’ of specific communication circuits, however tiny these may be ... (Lyotard 1984: 15). Rather, the poststructuralist subject is seen as ‘... fragmented, multiply positioned, discursively constructed – and decidedly anti-humanist ...’ (Threadgold 1999: 6 – 7). Foucault has reminded us also that humanism and ‘man as subject’ are relatively recent philosophical phenomena and were of little interest to thinkers prior to the eighteenth century.

Peters and Marshall’s (1996) characterisation of the exhaustion of the philosophy of the subject is helpful in that it juxtaposes this poststructuralist view with current neoliberal constructions of the subject and explains how these are connected with the Cartesian/Kantian tradition. Further, they explain that the philosophy of the subject, through neoliberal metanarratives, continues to be the basis of our institutions including universities and science organisations:

Historically, liberal institutions (prisons, courts, psychiatric institutions etc) including that of the school and the modern university, have legitimated themselves and their practices by reference to the discourse of the philosophy of subject-centred reason. The Cartesian-Kantian tradition conceived of the epistemological subject as the fount of all knowledge, signification and moral action. In transhistorical terms liberal philosophers pictured the subject within a set of highly individualistic assumptions as standing separate from and logically prior to, society and culture. These same assumptions vitiate the planning and policy documents of liberal capitalist and democratic societies. The individual is conceptualised in theory, and seen in practice, as the primitive unit of economic and political analysis, the ultimate beyond which one cannot go (Peters and Marshall 1996: 174).

The subject for many has turned out to ‘... reflect and reify the experiences of a few persons – mostly white, western males ...’ (Peters and Marshall 1996: 175). Peters and Marshall go on to point out that ‘... postmodernism as a critique of modernist social theory serves to radically decentre the subject, the cornerstone of both liberalism and Marxism, (though in different

ways)' (1996: 175). A post position sees the subject as a discursively constructed entity. People are mostly (not entirely) constructed from the available discourses circulating in a specific context/society at a specific time. For example, it would be impossible for a young Pakeha person growing up in Auckland, New Zealand, to have the same discourses and therefore facets of identity production available to her as, say, a Sami child growing up in the Arctic circle two hundred years ago, or even contemporaneously. Discourses, in effect, are ways of being and doing that have evolved over time among people who make up a discourse group. They therefore provide identikit tools for people to take on social roles in that group.

James Gee (1996: 128) writes: 'Discourses create "social positions" (perspectives) from which people are "invited" ("summoned") to speak, listen, act, read and write, think, feel, believe and value in certain characteristic, historically recognizable ways' This is not to deny personal agency and creativity, but suggests that individuals are substantially constrained by what discourses they have been enculturated into. Gee (1996) goes on to state that it is virtually impossible for 'individuals' to be entirely free choosing about who they want to be since people are born into a particular discourse or combination of discourses and can only move into other discourses if they are available. People from outside a particular discourse have to learn and acquire (noting that these are two different processes) ways to be in a new or unfamiliar discourse and this takes time, just as learning a new language takes time. Those who cannot master a discourse mark themselves as outsiders or only marginal members of a particular discourse. This may not always be a disadvantage since being only partially adapted (maladapted?) to a discourse enables metaknowledge of the target discourse (in effect, an understanding of what has to do to be done to become part of that discourse). Meta-knowledge development also allows a point from which to resist because one can understand what there is to resist, whereas those fully enculturated members of the discourse will only be able to see it as normal and natural (just the way things are or ought to be) and quite possibly, beneficial (Gee 1996).

Importantly though, Lyotard (1984: 15) reminds us that '... not even the least privileged among us, is ever entirely powerless over the messages that traverse and position him at the post of sender, addressee or referent'. A salient example of the way available discourses condition current and future action even when policy planners and the like think that they are thinking and doing 'differently' is in the scenarios constructed as part of the New Zealand Foresight process (Ministry of Research, Science and Technology 1998). These will be

analysed in more detail in chapter eight, but in this discussion it is worth noting that the three scenarios supposedly constructed to depict New Zealand in the year 2010 drew on events and issues that were already existing and recombined these in quite simplistic ways to create two unfavourable and one supposedly favourable scenario of the future (MORST 1998). These and other efforts to predict and construct the future indicate that it is difficult to talk, be and do outside what is or has been available to talk, be and do.

Governance

The question of governance is vital to any analysis of research policy. Governance works over at least three levels in the thesis: the level of state governance, institutional governance and self governance. The three levels are closely interrelated and often productive of changes across levels through discourse. This study concentrates on the first level (government) with an eye to the other two. For example, in the media analysis in chapter ten, science joined with business and universities to attempt to manipulate (discursively construct) an election outcome in its own (and the incumbent government's) interests. This is an example of the imbrication of state governance with other forms of power, including the power of science, business and the universities. As Lyotard (1984) has explained, power and knowledge in one arena bolsters power and knowledge in another.

Related to this idea is the argument that society itself has become governed by science and that while the economic genre might be said to govern science, the scientific genre governs economic and wider societal discourse. For example, it could be argued that many neoliberal economic theories and techniques of governance (e.g. a focus on inputs and outputs, catallaxy (spontaneous order) and surveillance) all have their origins in the natural sciences (Foucault in Gordon 1980: 184).

Foucault's work has been particularly engaged in the way human beings have their existences structured through the discourses or fields of action made available by dominant institutions of the state (for example the family, school, justice and economic systems) (Peters 1996: 83). This results in a kind of self governance (biopower/ somato power) where human beings regulate their own behaviours, saying and doing through the discourses available to them:

What I want to show is how power relations can materially penetrate the body in depth, without depending even on mediation of the subject's own representations. If power takes hold on the body, this isn't through its

having first to be interiorised in people's consciousness (Foucault in Gordon 1980: 186).

By producing and indeed narrowing available discourses, states and institutions are indirectly able to gain power and even approval without the use of omnipresent terror or force. Foucault argues therefore that a study of a particular field needs to extend beyond the state to examine the mechanisms and effects of power that do not 'pass directly via the state apparatus' (Foucault in Gordon 1980: 73), yet often enlarge and maximise its effectiveness. A reference to a university-produced report (NZVCC 1991) in chapter six provides an indication of how this 'governing without governing' can work in very powerful and therefore political ways especially when institutions and individuals want to avail themselves of the resources the state has at its disposal. This is achieved through playing the same language games as the government and relevant institutions (science in this case) in order to represent one's own interests. The result is a recirculation and even amplification of the government's own discourses making these even more difficult to circumvent. Foucault (in Gordon 1980: 39) observes:

But in thinking of the mechanisms of power, I am thinking rather of its capillary form of existence, the point where power reaches into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday lives.

Alongside the discursive strategies which subjectify individuals in particular ways is the ever rising phenomenon of surveillance, most often evident in environments of detailed accountability. Olssen, Codd and O'Neill (2004: 30) argue '... a carceral society, based on greater and greater individual control and surveillance, is the 'flip side' of a (neo)liberal regime characterised by individual rights, constitutional government and the rule of law'. PBRF might be seen as one example of this flip side in the academic arena. Certainly in terms of its ability to set the parameters for individual academic behaviour, distribute resources for research and rank academics and institutions it exercises both control and surveillance. PBRF also acts as a fulcrum for internal (university management) and external (government) circuits of power (Marginson and Considine 2000), allowing both sides the capacity to monitor the performance of the individual researcher, thereby opening the way for sanctions and rewards according to performances. In addition, the system enables the government to regulate resources to the institutions based on *their* performance. Of course PBRF also enables

‘consumers’ to ‘choose’ their university based on its advertised research performance. Institutions, in turn, can compete with one another for *better* performance.

A feature of the pervasiveness of neoliberal governance in New Zealand throughout the 1980s and first half of the 1990s was the way it served to literally police other ways of being and doing. For example Cartner and Bollinger (1997) give some hint as to how difficult it was to criticise policy or government practices especially in a small democracy like New Zealand where everyone in certain circles knows each other. As an academic or scientist you might be writing a paper critiquing the science ‘reforms’ one day and the next you could be in Wellington at a symposium discussing how best to strategise for a FORST (Foundation of Research, Science and Technology) grant. For researchers and scientists in New Zealand it was professionally risky to publicly criticise research policy and institutions if prestigious contestable funding was being sought.

Language and discourse

While more will be said about language and discourse in the following chapter, it will already be apparent that a post position sees language as an important instantiation of the social bond. This is significantly different from the modernist idea that reality and thought exist prior to language and language simply reflects thought and reality. A post position suggests that people can never be ‘outside language’ and indeed Lyotard (1984: 15) points out that we are positioned by language prior to our birth:

... there is no need to resort to some fiction of social origins to establish that language games are the minimum required for society to exist: even before he is born, if only by virtue of the name he is given, the human child is already positioned as the referent in the story recounted by those around him, in relation to which he will inevitably chart his course. Or more simply still, the question of the social bond, insofar as it is a question, is itself a language game, the game of inquiry. It immediately positions the person who asks, as well as the addressee and the referent asked about: it is already the social bond.

Lyotard contends that our method of questioning and interpreting ‘the social bond’ is through analysing and engaging in ‘language games’ which accepts ‘agonistics’ – continual displacement, disagreement, and unexpected language moves - as its founding principle. This is in direct opposition to the notion of the transparent speech community where the goal is perfect communication gained through consensus between rational human beings. Lyotard’s

objection to the ideal of perfect communication is that it is simply unattainable without silencing someone (inevitably involving some kind of violence). Also, different statements serve different purposes and to finally reduce them all to the same function (communication) (Lyotard 1984: 16) will ‘... unduly privilege ... the system’s own interests and point of view.’ Finally, the goal of consensus is not reasonable since the nature of language is that it is an inherently conflictual enterprise which involves ‘moves’ and concomitant ‘displacements’.

Lyotard’s examination of social relations has strong similarities with Foucault’s analysis of history and disciplines. For example, Lyotard discusses the differences between an ordinary conversation between friends and what can be said within an institution. He points out that in a discussion between friends the greatest flexibility and range of statements is possible and admissible. However, in an institutional setting, what can be said and therefore done has constraints. Some ‘classes of statements’ are more acceptable than others: ‘there are things that should be said and ways of saying them’ (Lyotard 1984: 17). This is what Lyotard would say constitutes the discourse of a particular institution. He follows this up with the observation that in fact limits are always in the process of being tested and shifted. It is the outer bounds of what can be said and done that provide the discursive restraints (Lyotard 1984: 17).

Discourse for Foucault, is not language in the formalist sense most often associated with the discipline of linguistics, but ‘... whatever constrains – but also enables – writing, speaking and thinking within ... specific historical limits’ (McHoul and Grace 1993: 31). Foucault contends that whatever ‘utterances or texts which have meaning and some effects in the real world count as discourse’ (Mills 1997: 7). This Foucauldian relationship between the real and discourse needs to be understood not as a denial that the real exists. Rather, Foucault contends, how we talk about and act on the real is an effect of discourse. It is the discursive structures which make ‘objects or events appear to us to be real or material’ (Mills 1997: 50). It follows therefore that ‘... there is no intrinsic order to the world itself other than the ordering which we impose on it through our linguistic description of it’ (Mills 1997: 52).

Conclusion

This chapter has laid out the philosophical foundation for the thesis, working primarily through the writings of Michel Foucault and Jean Francois Lyotard. It has explained the

inextricability of theory and method and suggested that any particular philosophical lens will give some steer as to how a situation might be problematised or a problem investigated.

The key philosophical lens in the thesis is what has been termed a poststructuralist/postmodernist or simply 'post' position. 'Post' in this case indicates not so much a temporal coming after although there is a sense of that, for example coming after the breakdown of the metanarratives of the Enlightenment. Rather it carries a feeling of criticality, problematisation and interrogation: asking questions like, what is going on here, how did it come about, can we remember other ways of being and how else could this be?

A key factor in considering the object research is the status of knowledge and how it has been increasingly constructed by computerisation. As Lyotard observes, only knowledge that is transportable along computer cables and now wireless through airwaves, will count as knowledge. Similarly, the growth of new information technologies has been co-terminus with the reinvigoration of capital since the 1970s and the fortunes of the two are closely intertwined. This close connection between capital generation, technology and what has and does constitute knowledge and therefore research will be a key theme of the thesis. In the next chapter I will consider how to approach the analysis of research policy in tertiary education and national science.

Chapter Three

Policy analysis, discourse, language and games.

What I'm looking for are not relations that are secret, hidden, more silent or deeper than the consciousness of men. I try on the contrary to define the relations on the very surface of discourse; I attempt to make visible what is invisible only because it's too much on the surface of things. (Foucault 1989: 46)

Introduction

As suggested in chapter two, the way analysis is approached is inevitably interwoven with the selected theoretical position. Lyotard contends that the choice of methodological inquiry is vital and will necessarily affect the outcome: '... knowing about society involves first of all choosing what approach the inquiry will take' (Lyotard 1984: 13). The rise of communication both as '... a reality and an issue ...' (Lyotard 1984: 16) in society means that language has assumed a new importance. In 1979, Lyotard could already cite the dominance of language in the development of 'leading' sciences and technologies:

... phonologies and theories of linguistics, problems of communication and cybernetics, modern theories of algebra and informatics, computers and their languages, problems of translation and the search for areas of compatibility among computer languages, problems of information storage and data banks, telematics and the perfection of intelligent terminals, paradoxology (Lyotard 1984: 4).

The range has grown since then. An approach to research policy analysis from a post perspective will therefore tend to recognise and engage with '... the fundamental importance of language and other semiotic processes in the constitution of the social world, the culture and subjectivity' (Threadgold 1997: 4). This is significantly different from the modernist idea that reality and thought exist prior to language and that language simply reflects thought and reality.

The methodological approach is descriptive, critical and discursively analytical (deconstructive) in regard to policy and related texts (Foucault's 'monuments'). While some may criticise such an approach as reifying text (that is, analysing text at the expense of other possible objects of study such as people or actions), the writer considers, following Foucault, that text exists for a reason, that it signifies a desire to be and do. Because it exists, '... there

must criticism also be, to reveal the exact places - and displacements - of the text, thereby to see the text as a process signifying an effective historical will to be present, an effective desire to be a text and to be a position taken' (Said 1978: 710).

This study is an attempt to trace the lines of continuity and discontinuity in the way research has been constituted as an object over the last twenty years. The mode is historical but attempts a Foucauldian approach to history rather than a traditional history. Foucault is concerned to work with specificity and critical historicism to show how the way things are now, have come about. Foucault suggests that there are other ways to 'be' and 'do' but that these are not easy to imagine, caught as we are, in the truth regimes of our time. For example, Marginson (1997) has explained how the growth and dominance of market-like conditions for research inside the Australian university system made it eventually very difficult to think about how else research and its resourcing might be arranged:

The rise of commercial research meant that there was a growing zone within the university in which market relations were one of the prior conditions supporting the very process of interpretation itself. The result was to place markets outside debate. It became difficult to imagine a university, or any other system of relationships, in which markets might be absent (Marginson 1997: 277).

The thesis works on the basis of explaining 'what's there' in the policy documents and noticing at different points how policy language has reconstituted the object 'research' and therefore research practices. A sustained close textual analysis is performed towards the end of the thesis in chapter ten. The analysis is of a full page newspaper advertisement (Life Sciences Network 2002) published just three days prior to New Zealand's 2002 national election. The advertisement constituted the close network of scientific, political and capital interests which had become vested in certain discursive constructions of research and research path dependencies in New Zealand, in this case around biotechnology. The analysis and deconstruction of the advertisement demonstrates Lyotard's argument that, '... knowledge and power are simply two sides of the same question: who decides what knowledge is, and who knows what needs to be decided? ... the question of knowledge is now more than ever a question of government' (Lyotard 1984: 9).

Policy analysis, texts, language and discourse

In the field of policy analysis a recognition of the importance of language in producing real/material effects has been relatively recent. In particular, the work of Foucault has been generative of new ways of thinking about and analysing policy. The following section considers some of this work, particularly in the educational policy field.

In 1988 John Codd published a seminal article suggesting the need for a break from traditional modes of policy analysis which he labelled ‘technicist-empiricist’. He characterised such approaches as being ‘... based upon idealist assumptions about the nature of language itself which take it to be a transparent vehicle for the transmission of information, thoughts and values’ (1988: 235). A traditional policy approach is ‘instrumentalist’ in the sense of believing that there are correct ‘means’ that will lead to desired and agreed upon ‘ends’. The job of policy ‘science’ has been to sort between the available alternatives and arrive at the ‘best’, while the traditional analysis of policy documents was directed at understanding the ‘real’ authorial intention and deciding if this expressed the ‘best’ means to an end. Codd (1988) explained that such an approach was problematical as it left out the performative and constitutive nature of language itself, seeing it rather as a sign of other things: thoughts and objects. Following Saussure, Foucault and others, Codd (1988) argued instead for a materialist conception of language which recognised the effects produced by language, referring to this as discourse.

Codd (1988: 236) went on to advocate a textual deconstruction ‘... in which ideological effects can be critically examined.’ In linking concepts of ideology and discourse, however, Codd departs from Foucault. In a discussion of a New Zealand education policy document, he states:

One of the central tasks for the critical analysis of a document such as *The Curriculum Review* is a deconstruction of its text which focuses on the process of its production as well as on the organisation of the discourses which constitute it and the strategies by which it masks the contradictions and incoherences of the ideology that is inscribed in it (Codd 1988: 245).

Rather than looking for an underlying ideology, Foucault’s position is that the focus of study should be on ‘truth and power’, not ‘science and ideology’ (Foucault in Gordon 1980: 132). Foucault is unequivocal in his rejection of the concept of ideology (Foucault in Gordon 1980) for three key reasons: firstly because it appears always to stand ‘... in virtual opposition to

something else which is supposed to count as truth'; secondly because Foucault believes that ideology always refers to the order of a subject (and his intellectual project has been to do away with the subject itself and instead to see how subjects are constituted); and thirdly 'ideology stands in a secondary position relative to something which functions as its material, economic determinant, etc' and Foucault rejects such a notion (Foucault in Gordon 1980: 118). The political question, he says, 'is not error, illusion, alienated consciousness or ideology; it is truth itself' (Foucault in Gordon 1980: 133). Indeed, Foucault's use of the term discourse has been worked out largely in reaction to the term 'ideology' (Mills 1997).

Both Lyotard and Foucault reject any notion of discourse revealing some underlying alternative meaning. What is, is and this needs to be read and explained. The task is not to identify a hidden ideological position obfuscated by the language:

The analysis of statements, then, is a historical analysis, but one that avoids all interpretation: it does not question things said as to what they were hiding, what they were 'really' saying, in spite of themselves, the unspoken element they contain, the proliferation of thoughts, images, or fantasies that inhabit them; but, on the contrary it questions them as to their mode of existence, what it means to have come in to existence, to have left traces and perhaps to remain there awaiting the moment when they might be of use once more; what it means to have appeared when and where they did – they and no others. From this point of view, there is no such thing as a latent statement: for what one is concerned with is the *fact of language* (langage) (Foucault, 1969: 123).

Therefore, discourse for Foucault is productive in its own right. It does not hide, nor is 'influenced' by something other, namely an ideology.

Codd (1988) goes on to assert objectivity for his deconstructive mode of analysis which seems to claim a scientific authority or truth. This position appears to be inconsistent with his desire to distinguish himself from earlier 'technicist-empiricist' methods. Pennycook (2001) finds Fairclough's (1995) Critical Discourse Analysis (CDA) theoretically confusing in similar ways. Pennycook (2001) quotes Patterson (1997) who argues 'critical discourse analysis occupies a somewhat contradictory position' because 'if the positivist claim to grasping truth is to be discredited, it seems odd that as a critical analyst I should feel free to assume the truth about ideological operations is within my reach' (Patterson 1997: 426 in Pennycook 2001: 84). Despite this apparent inconsistency, Codd's article provided an

important base from which further discourse approaches to educational policy analysis would define themselves.

Stephen Ball's article (1993), 'What is Policy? Texts, Trajectories and Toolboxes' engages in a close questioning of what policy is and how one approaches analysis. Ball distinguishes between policy as text and policy as discourse. In his exploration of policy as text he notes that it can be very hard to distinguish exactly what policy is (it could be any one of a number of things) but one *can* say that policy matters because people actually act on policy – it has material effects of one kind or another: 'policies are textual interventions into practice' (Ball 1993: 12). Here, Ball sees policy restraining activity: 'Policies ... create circumstances in which the range of options available in deciding what to do are narrowed or changed' (1993: 12). But he wonders whether policy also allows for considerable agency: 'Actors are making meaning, being influential, contesting, constructing responses, dealing with contradictions, attempting representations of policy' (1993: 14). Ball, citing Foucault, speculates whether this is too simple a position to take, however, and if it misses the bigger picture: 'Thus we need to appreciate the way in which policy ensembles, collections of related policies, exercise power through a production of "truth" and "knowledge", as discourses.' For Ball, policy (singular) can be seen as text at the micro-level where both constraint and agency exist, that is, where people decide or do not decide to do things according to what is in the text. Policies (plural) as discourse, is the macro-level which forms the circumstances for our thinking and action. It is difficult to ascertain what should or could be analysed at this level because it is 'too much on the surface of things', too naturalised. Ball (1993) appears to be more interested in the effects of policies as discourses than in the texts themselves. These he categorises as first order and second order effects. First order effects he describes as changes in 'practice or structure' and second order effects he describes as 'changes on patterns of social access and opportunity and social justice' (1993: 16). He concludes by advocating the study of 'policy trajectories', that is, studying the context of influence (where did the ideas come from), the context of policy production (how, who, when, where, why) and the context of practice or implementation. Ball (1993) contends that this more holistic approach might result in better (critical, theoretical) questions rather than just 'problem-solving' ones.

Gale (1999) finds Ball's policy trajectories 'deceptively linear representations' and, paradoxically, redolent of more traditional approaches to the study of policy. He engages with Ball's 'heuristic account of policy as text' (1999: 394) in order to develop an account of

policy as text, discourse, ideology and settlement ‘... as a way of dialectically embracing the complexities and coherence of policy processes and to frame policies’ interdiscursive politics’ (Gale 1999: 394). Gale then enumerates seven properties of policy contexts which impinge on policy production. These are, briefly stated:

1. Any analysis of policy requires a recognition of the current and historical context.
2. Policy texts are to an extent ‘produced’ by surrounding texts (intertextuality).
3. Policy con-texts are literally connections of texts bridging all levels: the local, the national and the global.
4. Policy texts are implicated in (literally folded into) the writing and rewriting of their own contexts; that is they are constitutive as well as reflective of their contexts.
5. Policy genres are significant: ‘that is, particular selections and orderings of policy texts’ (Ball 1994: 17) sediment over time and space to form accepted (reproductive of convention) and acceptable (reproductive of dominance) patterns or “templates” of policy production’ (Gale 1999: 399). Gale points out that while specific policy texts often conform in terms of sets of participants and structuring they also have commonalities with all policy in that they are written as singular truths and as though they represent the one ‘public good’. In doing this they deny the politics and pluralities of the field.
6. Policy contexts are ‘domains of interdiscursive struggle’. Texts therefore employ devices to maintain their own dominance or challenge others. This could be through invoking a meta-discourse e.g. (the discourse of the knowledge society) or heroic discourse (e.g. the discourse of the entrepreneurial scientist researcher).
7. Gale contends that these properties of policy contexts lead to ‘an appreciation of policy as settlement’. He characterises ‘settlement’ as ‘a moving discursive frame’ (from Ball 1994: 23) which at a particular historical and geographical moment defines the specifics of policy production, the ‘why now’ and the ‘what now’ of policy (Gale 1999: 400).

Gale’s identification of these properties of policy contexts is productive of ways to think about and inform policy analysis. Interestingly, in his explanation of policy settlement Gale also invokes ideology as a way of explaining the ‘why now’ of policy. He provides a diagram portraying a hierarchy of levels of settlement particulars, with ideology at the top. This

relationship between text, discourse and ideology, Gale says, is much more interactive than the diagrammatic representation can indicate. Despite the assurance, the diagram and its hierarchy are potentially problematic because they cannot depict the complexity of interaction between 'levels'. More difficult, as suggested earlier, is the invocation of ideology. Even though there may be several different meanings of the word 'ideology' (Bacchi 2000) a discursive approach to policy analysis does not easily incorporate the notion of ideology. Bacchi observes that there continues to be considerable slippage between meanings ascribed to 'ideology', and the old Marxist notion, corresponding to something like the '... process(es) whereby individuals (are) duped into using conceptual systems which (are) not in their own interests' (Mills 1997: 30), continues to work its way into the mix. For this reason, an invocation of ideology sits more comfortably within critical theory than poststructuralist modes of policy analysis (Bacchi 2000). Foucault's notion of discourse obviates the need for a category 'ideology', and works as an inclusive term that enables a charting of the contours of shifts and discontinuities in practices (and in this case textual practices) over time.

How problems become constituted as such in educational policy has interested Scheurich (1994). Rather than analysing policy as discourse, he is attracted to Foucault's concept of archaeology for exploring how educational policy comes to frame its problems in the ways it does. He heralds his approach, perhaps immodestly, as a 'radically different approach to policy studies' and attributes his 'policy archaeology' to 'interactions with Foucault': 'I do not pretend to have correctly "interpreted" Foucault, but it is from my repeated readings of these works that I developed this new way of thinking about social and education policies and the social and education problems that the policies are meant to solve or alleviate' (Scheurich 1994: 297). His key point is that the construction of the 'problem' is itself a problem; that in defining 'the problem', traditional and postpositivist approaches to policy analysis have continued to ignore the question of whether '... the liberal social order itself should be questioned' (Scheurich 1994: 299). In a closely explicated methodology Scheurich demonstrates how a US policy aimed at 'fixing' the problem of underachievement in schools through linking school, health and social services is wrongly formulated in the first place. He contends that such a policy accepts the regularities of the existing social order in terms of race, class and gender. Underachieving children, the 'problem group' are generally poor, 'people of colour' (Black or Hispanic) and from single parent households run by women. He sees this labelling of such a group (as the problem needing to be fixed) as critical to the maintenance of the existing status quo. Otherwise, he points out, why would not other social

groups be seen as central to the problematic. He cites, for example, the white middle class suburban schools and students who inscribe and are inscribed with social privilege: 'Through (white suburban) schools the social order is constituting its privileged members – how to behave and how to think. But the social order will not constitute this privileged group as a problem group ... it will not label, describe, study and treat this group as a problem' (1994: 308). Scheurich's approach to problem formulation is useful in providing tools for trying to think 'other'. His methodology could also be seen as a way of analysing the metanarratives in society and considering other ways people's lives and problems could be 'told' in policy.

Bacchi (2000: 45) investigates what policy analysts are trying to achieve by 'the invocation of 'discourse''. She suggests that such analysts are at some level looking for change and tend to be on the 'left' of the political spectrum. They also tend to be saying something about how hard it is to change discourses and effect 'progressive' social interventions although they admit that 'contradiction and multiplicity' in discourses opens up space for 'challenge'. Bacchi's point is to suggest that more emphasis needs to go on theorising the 'space for challenge'. She believes that 'policy as discourse theorists' overemphasise '... the constraints imposed by discourse/s and (have) a tendency to concentrate upon some groups, those described as 'having power', as the makers and the users of the discourse' (2000: 55).

In fact, working from a discourse perspective allows a range of work to be done and need not be overly determined by left/right dialectics. Foucault and Lyotard saw the traditional demarcations of left and right as increasingly problematic following the political events of 1968 in France, in particular. Rather, their respective philosophical works were aimed at challenging liberal humanism and all types of conservatism. It appears that Bacchi (2000) does not recognise this contradiction in her own work or the work of the theorists she discusses and this leaves a gap in her argument. Mills sums up this different role of discourse:

Discourse, because of its lack of alliance to a clear political agenda, offered a way of thinking about hegemony – people's compliance in their own oppression – without assuming that individuals are necessarily simply passive victims of systems of thought. For those who work within discourse theory, the model of political activity and the perceived outcomes of that activity are very different from those developed within schools of thought informed by notions of ideology. Whereas Marxist views of history and progress tend to lead to fairly clear-cut Utopian views of what is to be achieved models of action formulated using discourse tend to formulate rather messy, complex visions of the future (Mills 1997: 30).

Other policy analysts also take a language orientation to their analysis but may not be explicit in their delineation of methodology. For example, Peters and Roberts (1999: 7) state that the aim of their book *University Futures and the Politics of Reform in New Zealand*, is to ‘Problematise (this) language, the philosophical assumptions behind it, and the institutional transformations associated with it’. The language they are referring to is the language of neoliberalism that dominated policy discourse in the late 1980s and early 1990s in New Zealand and continues to be recycled in the 2000s. Roberts (2004: 357) explains this approach arguing that ‘those who seek to understand the world in market terms’ play a particular language game and use specific terms (Foucault’s ‘statements’) to mark this out. For example, he cites the following terms as those constituting a language game of marketisation:

... consumers, clients, providers, stakeholders, choice, competition, inputs, throughputs, outputs, outcomes, added value, products (including ‘services’), market share, positioning and repositioning, performance indicators, downsizing and resizing, rationalising, upskilling, buying, selling, franchising and so on (Roberts 2004: 357).

Education Policy: Globalization, Citizenship and Democracy by Mark Olssen, John Codd and Anne-Marie O’Neill (2004) begins from the premise that in a post 9/11 world education is the ‘key to global security, sustainability and survival’ (2004: 1). The authors point out that a robust approach to education policy analysis is more important than ever, given that the broad liberal democratic mission underpinned by what was previously a generous and expansive view of education has been seriously undermined by neoliberal governments. Olssen, Codd and O’Neill (2004) suggest that this erosion of the idea and reality of public education for nation building and citizenship is potentially devastating for the very survival of the world as we know it. The authors problematise liberal views of globalisation that see it as a largely benign force taking better and more consumer products to every corner of the globe and generally expanding ‘transnational interdependence and interconnectivity’ (Olssen, Codd and O’Neill 2004: 15). In order to critique this position and argue for a return to a welfare community ‘albeit in a new global context’ Olssen, Codd and O’Neill (2004: 15) favour ‘Foucault’s insights into the discursive manifestations of state authored modes of power and control, together with the nuanced historicity of his exploration of how government becomes inscribed in the subject’ (Olssen, Codd and O’Neill: 14 - 15).

This thesis works from the basis that discourse theory has become an important, perhaps even indispensable, part of public policy analysis. Like Olssen, Codd and O’Neill (2004: 16), it sets

about ‘the analysis of policy as discourse and as text based upon a materialist theory of language.’ Within this approach, Peters and Roberts’ (1999) focus on the ‘repeated materiality’ (Foucault 1969) of symbolic statements will be important as will an insistence on the constitutive nature of policy and a strong requirement to attend to the con-text of policy development (Gale 1999, Olssen, Codd and O’Neill 2004). In doing this the work will primarily rely on a mobilisation of Foucault’s theorisation of discourse and Lyotard’s notion of language games.

Discourse and discursive formations

Discourse is a widely used term. It means different things in different disciplinary environments. In her introduction to *Discourse* Mills (1997) observes:

The term ‘discourse’ has become common currency in a variety of disciplines: critical theory, sociology, linguistics, philosophy, social psychology and many other fields, so much so that it is frequently left undefined, as if its usage were simply common knowledge (1997: 1).

Foucault (1969) however remains equivocal over defining the term discourse and was reluctant to fix it with a final definition. In the *Archaeology of Knowledge* he settles for ‘... a group of statements in so far as they belong to the same discursive formation’ (Foucault 1969: 131). But like the terms Foucault himself analyses, where the term discourse is invoked as part of specific intellectual practices is more important and interesting than what it actually ‘means’ (Bacchi 2000). Discursive formations and the statements which comprise them tend to be associated with institutions which in turn sit within a broader social context, ‘Institutions and social context therefore play an important determining role in the development, maintenance and circulation of discourses’ (Mills 1997: 11). In addition, discourses occur in dialogue with or at least in relation to other discourses. This feature of discourses, known as interdiscursivity, explains the productivity of discourses and how they appropriate, circulate and recirculate messages in new ways.

As suggested above, discourses should also be thought of as being rule governed. They are comprised of systems of being, doing, saying, writing and reading which have real life effects and mark the boundaries around what is considered acceptable. Mills (1997) points out that it is through the production of truth, power and knowledge in particular that discourse has its

effects. Rather than being something with transcendental quality, truth, for example, for Foucault, is something that has to be laboured over and worked at:

Each society has its regime of truth, its ‘general politics’ of truth: that is the types of discourse it harbours and causes to function as true: the mechanisms and instances which enable one to distinguish true from false statements, the way in which each is sanctioned; the techniques and procedures which are valorised for obtaining truth; the status of those who are charged with saying what counts as true (Foucault 1979a: 36).

Following Foucault (1969: 137), then, we can accept discourse in its:

... empirical modesty, as the locus of particular events, regularities, relationships, modifications and systematic transformations; in short that it is not treated as the result or trace of something else, but as a practical domain that is autonomous (although dependent) and which can be described at its own level

Foucault (1969: 136) insists that because discourse is ‘... finite, limited, desirable, and useful ...’ it should be regarded as an asset which is closely linked to questions of power. Discourse will always be struggled over and the struggle will always be political.

Mills (1997: 13) describes the statement as the essential building block of discourse: ‘... those utterances or parts of text which have an effect.’ Foucault’s statements though are not coterminous with a grammatical sentence, a logical proposition, or a speech act. Foucault proposes that a statement can be considered that which,

... has a bearing on a group of signs ... and which requires if it is to operate: a referential (which is not exactly a fact, a state of things, or even an object, but a principle of differentiation); a subject (not the speaking consciousness, not the author of the formulation, but a position that may be filled in certain conditions by various individuals); an associated field (which is not the real context of the formulation, the situation in which it was articulated, but a domain of coexistence for other statements); a materiality (which is not only the substance or support of the articulation, but a status, rules of transcription, possibilities of use and re-use) (Foucault 1969: 129).

In this thesis I will routinely refer to common collocations (e.g. knowledge society) and other key lexical items/terms (e.g. outputs, excellence, innovation) as statements because of their ability to have a (often significant, even identity changing) bearing on the objects of which they speak. For example, once a range of heterogeneous research publications and other

research forms became ‘outputs’ they gained a homogeneity and concomitant ability to be quantified that they had never previously had. Moreover, as New Zealand policy documents routinely referred to New Zealand as a (potential) knowledge society, certain types of knowledge production became more obviously privileged in terms of public discourse and funding; one of the most dominant in the early 2000s being biotechnology. One other example is the increasing use of the statement ‘investment’ to describe the funding of national science research and tertiary education research. ‘Investment’ suggests the need for a ‘financial return’ as well as the possibility of no ‘investment’ if the ‘return’ is not appropriate. ‘Funding’ has more of a feeling of reliability and regularity, something that might continue even in difficult times. Importantly, the analysis of statements can never be and does not claim to be an exhaustive description of the language. Foucault (1969) concedes that it is just one way to address and describe the complexity of language and to try and isolate specific terms, regularities and rules.

A discursive formation is made up of a group of statements that produce ‘... the regularity of a practice ...’ (1969: 82). Foucault (1969) therefore finds himself able to write of the discourses of major disciplines, for example: clinical discourse, economic discourse, the discourse of natural history, psychiatric discourse (1969: 121). He contends that in order to understand and describe a discursive formation, he is looking for connections (or disconnections) and regularities between a number of statements:

Whenever one can describe, between a number of statements ... a system of dispersion, whenever, between objects, types of statement, concepts, or thematic choices, one can define a regularity (an order, correlations, positions and functionings, transformations) we will say for the sake of convenience, that we are dealing with a discursive formation (1969: 41).

These groups of statements as discursive formations form a positivity, according to Foucault, that can be explained and described rather than interpreted. Consequently, discourse in its own particular specificity has meaning, truth and history. And it is this specificity that is so interesting. Foucault calls this the principle of rarity. He contrasts it with a standard discursive analysis that purports to describe the totality and potentiality of a discourse:

... a great, uniform text, which has never before been articulated, and which reveals for the first time what men ‘really meant’ not only in their words and texts, their discourses and their writings, but also in the institutions, practices, techniques and objects they produced. In relation to this implicit,

sovereign, communal ‘meaning’, statements appear in superabundant proliferation, since it is to meaning alone that they all refer and to it alone that they owe their truth: a plethora of signifying elements in relation to this single ‘signified’ (*signifie*) each discourse contains the power to say something other than what it actually says, and thus to embrace a plurality of meanings: a plethora of the ‘signified’ in relation to a single ‘signifier’. From this point of view, discourse is both plenitude and endless wealth (Foucault 1969: 134).

Foucault’s contrasting approach lies in establishing ‘... the principle according to which only the ‘signifying’ groups that were enunciated could appear and none others’ (1969: 134). He notes that while the possibility of what could have been said is infinite, only one thing was actually said. This principle of rarification can also be thought of as the non-filling of the field of possible formulations. ‘Discursive formation appears both as a principle of division in the entangled mass of discourses and as a principle of vacuity in the field of language (*langage*)’ (Foucault 1969: 134).

What are the rules that allow certain statements and not others to appear? In the institutional setting, for example, some ‘classes of statements’ are more acceptable than others: ‘there are things that should be said and ways of saying them’ (Lyotard 1984: 17). This is what constitutes the discourse of a particular institution and the limits are always in the process of being tested and shifted. It is the outer bounds of what can be said and done that provide the discursive restraints. In this way the discursive formation appears as ‘... a distribution of gaps, voids, absences, limits, divisions’ (Foucault 1969: 135). Because statements within discursive formations are so ‘rare’, they have considerable value and need to be taken seriously. They have been said and not others and will therefore be transmitted, preserved, appropriated, transformed, commented upon; their meanings will be multiplied and existing networks will adapt to their existence. As a product of the institution, in particular, they will be given status, and for this reason demand attention and analysis.

Peters (1996), drawing on Foucault (1991) explains the different categories of changes in discourse that one might look for, noting that these are by no means exhaustive:

1. Changes within a given discursive formation, including that of deduction or implication, generalisation, limitation, by shift between complimentary objectives, by passing to the other term of a pair, through permutation of dependencies, exclusion or inclusion

2. Changes that affect discursive formations *themselves*, including the displacement of boundaries, new subject speaking positions, new modes of object-language functioning and new forms of localisation and circulation of discourse.
3. Changes that simultaneously affect *several* discursive formations, including the inversions of hierarchies, change in the nature of the directing principle and functional displacements (Peters 1996: 83).

While the key objects of study in this thesis are research policy texts, other related yet more ephemeral documents (newspaper articles, brochures, newsletters and advertisements) which position and produce the 'object' research and its variants (e.g. innovation) will also be considered. As Threadgold (1997: 5) has noted:

... 'identity' is discursively produced, and ... it is *not one*; ... it is a network of multiple positions, constructed in and through many chains of signification, always realised in texts, enacted and performed, read and written, heard and spoken, in verbal, visual, graphic, photographic, filmic, televisual and embodied forms, to name just some.

Language games

Lyotard contends that our method of questioning and interpreting 'the social bond' can be through analysing and engaging in 'language games'. These accept 'agonistics' – continual displacement, disagreement, and unexpected language moves as a founding principle. This is in direct opposition to the notion of a (the) transparent speech community where the goal is perfect communication gained through consensus between rational human beings. Lyotard's objection to the ideal of perfect communication is that it is simply unattainable without silencing someone (inevitably involving some kind of violence). Also, different statements serve different purposes and finally to reduce them all to the same function (communication) will '...unduly privilege ... the system's own interests and point of view' (Lyotard 1984:16). Finally, the goal of consensus is not reasonable since the nature of language is that it is an inherently conflictual enterprise which involves 'moves' and concomitant 'displacements'.

Lyotard instead characterises society as an agonistics of language games: that every utterance is a move in a game that has rules, however contingent and short-lived they may be, and that to speak is to fight. Both Foucault and Lyotard were interested in the 'rules' of the game: what do you have to say, what tactics do you have to employ, in order to be considered 'in the

game' or 'in the (true) discourse'? Unlike Foucault, Lyotard (1984) is explicit in advocating a postmodern deconstruction and critique. Like Foucault, though, he is interested in the '... effects of different modes of discourse', how discourse constitutes and is produced by particular practices (Lyotard 1984: 10). Language (a major subset of discourse) is therefore at the heart of Lyotard's work and he acknowledges the later work of Ludwig Wittgenstein (1953) as being the theoretical basis for his own methodological approach to interrogating the question of 'legitimation in late capitalism'. Lyotard explains that by using the term 'a pragmatics of language games' he wants to suggest that:

... various categories of utterance can be defined in terms of rules specifying their properties and the uses to which they can be put - in exactly the same way as the game of chess is defined by a set of rules determining the properties of each of the pieces, in other words, the proper way to move them (Lyotard 1984: 10).

As with Foucault (1969), Lyotard is interested in finding out the rules for discursive formations (although he does not use this terminology); why it is that some utterances are acceptable and others are not.

This methodological choice is highly deliberate as Lyotard perceives it as one way to make a new move, outside the two dominant societal ideas prevailing in the west. The first is the model of society as an organic (and later, mechanical, computerised) whole and the second is the Marxist dialectic of 'critical theory'. Lyotard asserts that neither a positivist interpretation (claiming a total understanding of society) nor a Marxist interpretation (claiming a superior alternative interpretation) are ethically defensible research approaches. In the first case there patently is no one reality to be 'discovered' and uncovered by 'scientists'. And in the latter, on what grounds can one person claim a superior interpretation of reality particularly in light of the catastrophic injustices performed in the name of Marxism?

The theoretical unbundling of 'language games' suggests that:

1. Each language game is dependent on a contract (governed by rules), however short, shifting and contingent.
2. When the contract is broken (or there are no rules) there is no game. Equally, when a move fails to satisfy the existing rules, the game stops or changes (along with the rules).
3. And 'Every utterance should be thought of as a 'move' in a game' (Lyotard 1984: 10).

For Lyotard (1984: 15) the social bond is made up of language moves which comprise ‘... a fabric of relations that is now more complex and mobile than ever before.’ Lyotard (1984) points out that an investigatory method (the game of inquiry) of interrogating language games recognises:

1. The growing importance of language in every aspect of society – both he says ‘... as a reality and as an issue’ (1984: 16).
2. The essentially ‘... agonistic aspect of society ...’ (1984: 16), that messages are continually ‘... displaced by messages that traverse them, in perpetual motion’ (1984: 16). This suggests that while prevailing or dominant (winning?) messages obviously have material effects on what is said and done, the ability to trump and change with a new move remains a possibility.
3. Lyotard’s approach to language eschews communication theory which would simply describe the information communicated and this Lyotard contends ‘... unduly privileges the system’s own interests and point of view’ (1984: 16). He is more interested in analysis, pointing out that messages have very ‘... different forms and effects depending on whether they are, for example, denotatives, prescriptives, evaluatives, performatives etc’ (1984:16).

As noted above, Lyotard acknowledges his debt to Wittgenstein in the development of these concepts. Peters (1995), however, points out that Lyotard’s language games approach is an appropriation rather than a direct copy. One point of difference, for example, is Lyotard’s concept of the contract which is a stronger term (and requires ‘rules’) than Wittgenstein’s ‘agreement in practice’.

Lyotard (1984: 17) claims that the method of language game analysis is pertinent to the study of ‘contemporary institutions of knowledge’. Here he is referring in general terms to large bureaucratic structures - be they private or governmental, and including universities and research laboratories. In particular, Lyotard’s ‘method’ is a way of investigating what can be said at a particular time and by whom. However, as he goes on to observe:

We know today that the limits the institution imposes on potential language ‘moves’ are never established once and for all (even if they have been formally defined). Rather, the limits are themselves the stakes and provisional results of language strategies, within the institution and without.

Examples: Does the university have a place for language experiments (poetics)? Can you tell stories in a cabinet meeting? Advocate a cause in the barracks? The answers are clear: yes, if the university opens creative workshops; yes, if the cabinet works with prospective scenarios; yes, if the limits of the old institution are displaced. Reciprocally, it can be said that the boundaries only stabilize when they cease to be stakes in the game (Lyotard 1984: 17).

Lyotard's development of a methodology based on an analysis of language games is, as the previous chapter suggests, closely tied up with a philosophical understanding that if there are many languages and they continue to proliferate, there can be no mutually intelligible voice of reason as supposedly expressed through science with which to provide blanket legitimation. Science itself is constituted by an ever increasing proliferation of heteronymous and mutually unintelligible language games. So, while society can be studied through an analysis of language games (according to Lyotard), this is only so if we accept that this is how society is constituted.

Telling stories

As part of a focus on what is/has been said in and around research policy it will be important to analyse what kind of stories are being told. This focus on the narrative is closely related to Lyotard's work. As discussed in chapter two much of his wider philosophical argument rests on the understanding that Enlightenment metanarratives (the big stories which underpin many of our day-to-day activities) - emancipation, the life of the spirit and rationalism - have lost their credibility in the post war period. Lyotard's central thesis is that while these (metanarratives) previously legitimated knowledge and particularly scientific knowledge in the west, legitimacy is now achieved through performativity (a constant drive for efficiency in the system) and, concomitantly, through power. The performativity meta-narrative is derived from the technical language game. 'Technology is ... a game pertaining not to the true, the just, or the beautiful, etc, but to efficiency: a technical "move" is "good" when it does better and/or expends less energy than another' (Lyotard 1984: 44). He explains:

It was more the desire for wealth than the desire for knowledge that initially forced upon technology the imperative of performance improvement and product realisation. The 'organic' connection between technology and profit preceded its union with science. Technology became important to contemporary knowledge only through the mediation of a generalised spirit of performativity (Lyotard 1984: 45).

Lyotard goes on to point out however, that the performativity meta-narrative is actually only ‘De facto legitimation’ (Lyotard 1984: 47) because it relies on the referent ‘reality’.

... ‘reality’ is what provides the evidence used as proof in scientific argumentation, and also provides prescriptions and promises of a juridical, ethical, and political nature with results. One can master all of these games by mastering ‘reality’. That is precisely what technology can do. By reinforcing technology, one ‘reinforces’ reality, and one’s chances of being just and right increase accordingly. Reciprocally, technology is reinforced all the more effectively if one has access to scientific authority and decision-making authority.

This is how legitimation by power takes shape. Power is not only good performativity, but also effective verification and good verdicts. It legitimates science and the law on the basis of their efficiency, and legitimates this efficiency on the basis of science and law. It is self-legitimizing in the same way a system organized around performance maximisation seems to be (Lyotard 1984: 47).

The problem is, of course, that reality is not fixed. It changes according to what discourses are available to discuss it. One person’s lens for apprehending reality is not another’s and this is even more true when the analogy is stretched across cultures and languages. This is why legitimation through performativity can only ever be ‘de facto’.

Lyotard’s resistive moment is the *petit recit* (the small story) which does not claim to be anything more than local and inevitably culture bound. It exists next to different stories that it can never comprehend and does this without wanting to silence them. It refuses to tell the story of all people for all time.

A key purpose of *The Postmodern Condition* (Lyotard 1984) is to juxtapose narrative knowledge with scientific knowledge. As Jameson (1984: xix) explains: ‘On the political and social level, indeed, narrative in some sense always meant the negation of capitalism: on the one hand, for instance, narrative knowledge is here opposed to “scientific” or abstract knowledge as precapitalism to capitalism proper.’ Lyotard argues that despite the chauvinism of scientific knowledge as exemplified in its insistence that all statements, if they are to count, be subject to argumentation or proof, scientific knowledge cannot actually legitimate itself. As noted in chapter two, the problem lies in establishing who proves the proof and who decides the conditions of truth. Science eventually has to resort to telling stories about itself in order to explain, promote and sell itself outside its own community.

For Lyotard then, narrative is part of the object of his study and narrative analysis is an integral part of his chosen methodology for interrogating the condition of knowledge in post-industrial societies. What story is being told, from whose point of view, and with what effects?

Allan Luke (1997: 359) has linked Lyotard's narrative analysis with the discursual study of policy and other political texts:

In his report on knowledge, science and universities to the Canadian Government, Lyotard's (1984) position was that the texts of science and social science have no necessary purchase on truth and facticity but are narratives that situate particular modes of disciplinarity and power as protagonists in accounts of human history, development and the spread of knowledge.

He goes on to point out that the texts of government '... including policies and public speeches ...' claim scientific status and a self-legitimation that they can never actually have by placing themselves above fiction and 'popular discourse' and claiming official authority and institutional status. Like science, however, government also has to resort to narrative to sell its story to the public because there is no way in the end to prove that what it is stating is a fact. Luke (1997: 359) contends:

All narratives involve the juxtaposition, sequencing and chaining together of a particular sequence of actions, agents and consequences past, present and future. Government policies attempt to prescribe cause/effect sequences that connect institutional agency with particular material and social effects (Luke et al., 1993) ... policies can (therefore) be viewed as narratives that construct governments and other objects and practices of discourse as heroic protagonists.

Following Luke (1997) and Lyotard (1984), therefore, a focus on narratives at work in policy texts will be incorporated within the wider study of research policy and related texts.

Conclusion

This chapter has outlined the methodological approaches within which an analysis of research policy and associated texts will work, including an overview of recent approaches in educational policy analysis. A poststructuralist philosophical position already understands language, and therefore discourse, to be central to social life and instantiating of realities.

Work on and with (and sometimes in between) policy texts will therefore constitute the central approach of this thesis. In doing this, the writer will describe and analyse different discursive formations, what their limits are (what can be said and what cannot be said), how truth speaks through them, and how they are interdiscursive and therefore productive. The work will be historical and critical considering the specific contours of how things came to be as they are, thus providing room to think about how they might have been different. In working historically with texts, the writer will also analyse the games at play in discourse, noting when a new move is made and when the rules change (Foucault's ruptures). Institutional research policy is approached as a partial, interested narrative rather than as a politically neutral and scientifically authoritative account of what 'will be done'. However, there is strong regard for policy's political - and thereby power 'full' effects - in constituting the way people 'think' 'speak' and 'do'. As a way to frame this analysis, however, it is necessary to first consider the context of neoliberalism in its specific incarnation in New Zealand. The next chapter will do this.

Chapter Four

Neoliberalism in New Zealand

The society of the future falls less within the province of a Newtonian anthropology (such as structuralism or systems theory) than a pragmatics of language particles. There are many different language games - a heterogeneity of elements. They only give rise to institutions in patches - local determinism.

The decision makers, however, attempt to manage these clouds of sociality according to input/output matrices, following a logic which implies that their elements are commensurable and that the whole is determinable. They allocate our lives for the growth of power. In matters of social justice and of scientific truth alike, the legitimation of that power is based on its optimizing the system's performance - efficiency (Lyotard 1984: xxiv).

Introduction

An analysis of New Zealand research policy and its implementation since the 1980s needs to be understood within the context of the rise of neoliberalism and its concomitant discursive changes. Neoliberalism reached its zenith in New Zealand in the late 1980s and early 1990s. During this period the New Zealand science regime was redesigned around a marketised system of purchasing and contestability and the tertiary education system was set on a seemingly inexorable path towards privatisation. The following chapter considers the main tenets of neoliberal theory and their application in New Zealand. Arguably, this is *the* metanarrative of the late twentieth and early twenty-first century.

Neoliberalism has its theoretical roots in the work of Friedrich A. Hayek and later in the work of economists in the 'Chicago school' led by Milton Friedman. Soon after the end of the Second World War the mission was defined: '... the reconstruction of the social order as a market competition, grounded in competitive individualism' (Marginson 1997: 54). As the popularity of Keynesian policies waned in the face of recession, the petroleum crises and the collapse of regulated exchange rates in the early 1970s (Marginson 1997), a wider political movement known as the New Right gained dominance in the western world. This movement combined economic liberalism, based on the primacy of the market: 'If the market doesn't exist in some sphere of society it should' (Jesson 1999: 8.), and "competitive order" (to make competition work) rather than the Keynesian concept of "ordered competition" (to restrict the

effectiveness of competition) (Hayek 1949: 111), with political and moral conservatism.

The conservative strand added to neoliberal theories knowledge of power constructs and a requirement for state authority to protect property rights. Marginson (1997: 56) writes:

Conservatism was centred on property, not markets. Conservatives saw property and individualism as not natural but dependent on historical conditions, especially the state. Social order required the continuous attention of authority and the maintenance of class distinctions.

As the market liberal theorists and social conservatives grouped and regrouped over thirty years they successfully constructed what Marginson terms, following Foucault (Foucault in Gordon 1980), a power-knowledge system. That is, a system which is increasingly able to provide ‘... a means of criticism and self-reconstruction, a new language for politics, a model of the preferred society, and a formula for rule’ (Marginson 1997: 56).

Peters and Marshall (1996) describe the main theoretical elements of the New Right in the following way:

- A commitment to the free market involves two sets of claims: (a) claims for the efficiency of the market as a superior allocative mechanism for the distribution of scarce public resources; (b) claims for the market as a morally superior form of political economy.
- A return to a form of individualism which is competitive, ‘possessive’ and construed in terms of ‘consumer sovereignty’.
- An emphasis on freedom over equality where ‘freedom’ is construed in negative and individualistic terms. Negative freedom is freedom from state interference which implies an acceptance of inequalities generated by the market.
- An anti-state, anti-bureaucracy stance. The attack on ‘big’ government made on the basis of both economic and moral arguments tends to lead to corporatization and privatization strategies to limit the State.
- A moral conservatism which is based on fundamentalist and individualist values which are anti-socialist, anti-feminist and anti-Maori (in a New Zealand environment).

Figure 1: The New Right: Main theoretical elements

(Peters and Marshall 1996: 73)

It is not the case that the New Right took the same form across the western world; it could not be regarded as a 'monolithic entity'. In western countries the coalitions of groups and interests were different. In Britain and America both new and old conservative groupings lent support to New Right policies while in Australia the support between conservatives, liberals and right wing economics was more uneasy. And in New Zealand '... there was more support around neoliberalism as a purely economic and administrative set of concerns' (Olssen, Codd and O'Neill 2004: 135). Some writers have argued that using the term 'New Right' does not serve a useful purpose as the range of groups the term represents is too shifting and amorphous. Also, use of such a homogenising term may mitigate against investigating the complexity of the area (McCulloch 1991 in Olssen, Codd and O'Neill 2004). Olssen, Codd and O'Neill (2004: 135) point out, however, that, 'While it is important not to exaggerate the cohesiveness of such alliances, the concept nevertheless serves as a useful proxy indicator to characterise those groups that support an expanded market and reduced public provision.'

New Right and neoliberalism are closely related if not interchangeable terms. I will follow the preference of Olssen, Codd and O'Neill (2004) to use the term 'neoliberalism' in most situations because it better captures the discursive power of the broad coalition of liberal and conservative interests focussed on competitive individualism, the primacy of the market and a reduced role for the state. The term New Right refers more to the range of groups that have supported neoliberalism and I will sometimes use this term when referring to such groups.

New Zealand reaches the end of history?

What has been characterised as a revolution (Easton 1999a), albeit a conservative, neoliberal one, erupted in New Zealand with the election to power of New Zealand's fourth Labour Government in 1984. While the theories, policies and practices emanated from bigger and more sophisticated societies (Great Britain and the United States of America), they were more thoroughly and more swiftly implemented in New Zealand than anywhere else.

New Zealand reached the end of history ahead of everybody else, in a remarkable late run from well back in the pack. Using the excesses of the last Muldoon administration as cover and with TINA (There Is No Alternative) as their figurehead, our 'reformers' - Finance Minister Roger Douglas, with Treasury pushing him, the Big Business Roundtable pulling him, and his Prime Minister not paying much attention - rammed through

their hundred and one major policy changes, which left this country more thoroughly globalised, homogenised and internationally user-friendly than any other (Hazeldine 1998: 52).

In referring to New Zealand reaching the end of history, Hazeldine is making reference to Frances Fukuyama's influential book *The End of History* (1992). In the book, Fukuyama, a policy analyst from the Rand Corporation, posited the end of the historical struggle between ideologies and regimes, most particularly communism and capitalism. In the wake of the fall of the Berlin Wall and the reinvigoration of global capitalism under the regimes of Thatcher and Reagan during the 1980s, his book announced the trumping of all other forms of social organisation by capitalism. The neoliberal maxim 'the market will decide' was supposed to be the rallying call for every type of human activity.

Frances Fukuyama was in Wellington in 2002 at the invitation of the New Zealand Business Roundtable, the neo-liberal think tank at the centre of much economic and social restructuring in New Zealand between 1984 and 1999. The following passage encapsulates the superiority complex that seems to have fixed itself to the key protagonists of neoliberalism. Gordon Campbell (2002: 23) writes:

Here was Fukuyama telling them (the winners from the Thatcher, Reagan and Roger Douglas years) that no, their gains had not been due to their ability to write the economic rules to suit themselves – but were rather the outcome of humanity's endless striving for economic and social perfection, which had reached final fruition in their own good selves. They were not only the anointed best outcome of history, but stood astride the best system that humanity would ever, could ever devise.

The now well known acronym in the Hazeldine quote, TINA, refers to the phrase 'there is no alternative'. This slogan was widely disseminated in Thatcherite Britain and taken up in New Zealand as the rationale for pushing through the changes envisaged by the key architects of neoliberalism in New Zealand. The changes were often formulated as 'just commonsense', the only way to do things and the simplest way to do things. Jane Kelsey in her book *Reclaiming the Future* (1999a: 32) describes what happened in New Zealand as 'ideological closure'. She writes:

An obsession with the 'economically correct' serves to freeze ideas. The learning process stops, so people continue to believe there is no possibility

of change, even when neoliberal policies have failed. In this climate of ideological closure, the TINA principle prevails.

This stance was discursively and materially reinforced through reports on New Zealand by international bodies such as the OECD. For example, when an OECD group visited New Zealand in early 1997 to report on developments in the first years of tertiary education they continually stressed that the reforms must continue, that there was no ‘going back’ and that this was the only way ‘forward’ for New Zealand. They noted seriously conflicting views between the government and universities but suggested that the situation just needed better ‘handling’. The report did not suggest that the views in opposition to the reforms be taken more seriously (OECD 1997b).

Neoliberal restructuring of New Zealand was presented to the country as the only way to overcome the excesses and financial crises of the Muldoon era and catch up with the rest of the world (whether this was a worthwhile pursuit was not questioned). In order to rationalise the changes and make the concomitant suffering seem worthwhile (i.e. unemployment, benefit cuts, massive government sector restructuring and cost cutting across the board), New Zealand’s self understanding as a safe, racially, socially and politically harmonious democratic country blessed with rich natural resources had to be reconstructed. New Zealand prior to 1984 became disparaged under Rogernomics as ‘the Albania of the South’ (see Hazeldine 1998 for an overview of the stories), a ‘basket case’ economy with a society twenty years behind the rest of the western world. According to the new stories, the country had had such an overbearingly regulated economy that nobody had been free to do anything. As Bruce Jesson (1999: 61) stated: ‘The break with the past was linked with a total contempt for the past.’ He accuses the New Right advocates of a jaundiced view of New Zealand society which ‘... takes no account of the historical context, such as the aftermath of depression and war. It certainly didn’t require a political coup and the transformation of our entire society to abolish 6 o’clock closing (the time the pubs and bars were required to close). That occurred as part of a natural process of liberalisation following a referendum in 1967’ (Jesson 1999: 62).

Hazeldine (1998) cites the book and television series *Revolution* (Russell 1996) where the Labour Minister of Finance, Roger Douglas, points out how determined he was to change the country and the speed with which he was prepared to do it, in effect making sure that there was no time or space within which to develop alternative points of view:

It (the post-Muldoon crisis) was undoubtedly a great window of opportunity. It got the ball rolling and in a sense I made every endeavour to make sure the ball didn't stop rolling. I had the principle that it was much harder to shoot me down if I kept one pace ahead (Russell 1996: 69 in Hazeldine 1998: 29).

The general privatisation and then degradation of public services, a poorly performing economy, under-resourced health and education systems, depopulated and infrastructurally withered regions and a general hollowing out of civil services have also been well documented elsewhere (see, for example, Hazeldine 1998; Jesson 1999; Easton 1999a; Kelsey 1997).

Creating markets

The creation of markets where they had never before been envisaged was central to the policies that Douglas and his lead ministry, Treasury, espoused and were rationalised in terms of the apparent grand failures of the past. Neoliberal theory posited markets as a superior allocative device, a way of eventually reducing state funding as well as serving as more intensive instruments of control (Marginson 1997). Friedman (1962) in particular provided the blueprint for marketisation, the concept of which included the construction of market competition in every possible situation, a shift from public to private funding and a large reduction in the public provision of goods.

Previously, markets had been thought to be already existing, almost natural states, for example, the ancient bazaar of the Middle East. Hayekian theory, however, noticed that in fact markets developed under particular political, legal and institutional conditions. In order for markets to exist in a whole range of formally non-economised areas '... markets and market actors would need to be *created* by government' (Burchell 1993: 270) and '... competition can be made more effective and more beneficent by certain activities of government than it would be without them' (Hayek 1949: 110). Embarking on an extensive programme of creating 'natural markets' meant that policy interventions not previously considered (or considered possible) were made possible (Marginson 1997). Marginson (1997) contends that along with the creation of markets, subjectivities of both individuals and institutions were radically altered. Former citizen producers were reconstructed and reconstructed themselves as autonomous agent consumer taxpayers, and unlike the liberal citizen, individuality was to 'be asserted *against* rather than in cooperation with others.'

A range of mechanisms were developed to align economic social and personal conduct with sociopolitical objectives. “Steering from a distance” was always part of liberal government, but in the New Right era governments sought to govern entirely through ‘the regulated and accountable choices of autonomous agents-citizens, consumers, parents, employees, managers, investors’ (Rose 1993: 298). The formula was extended to institutions as well as individuals: for example by turning collegial autonomy into corporate market autonomy, universities were redeployed as self-regulating and partly self-financing market institutions (Marginson 1997: 72)

An important facet of blanket marketisation and government at a distance, achieved through complex steering mechanisms, was the ersatz feeling of democracy that such devolution engendered. Arguments for restructuring of government services and education were often couched in terms of communities having greater control and self determination, and in terms of greater ‘equality of opportunity’. In the New Zealand compulsory schooling context, the Picot reforms (Picot et al 1988) and the ensuing development of self-managing schools, for example, were ‘sold’ to the country with the seductive message that communities would now have equal opportunity to forge their own destiny rather than being dictated to by the erstwhile Department of Education. The reality turned out to be quite different. Already privileged schools were able to benefit from the community and parental resources they could draw on while impoverished areas had few resources and few (if any) professionally qualified parents to support and govern schools. The reforms in primary schools as in many other sectors in New Zealand society resulted in the rich getting richer and the poor getting poorer. As Marginson observes:

Governed markets and economised government, fulfilled a range of purposes never admitted to the formal reform agenda. Markets deconstructed those non-market social programmes in which equality of outcomes was the norm. Market devolution, with its pseudo-democratic feel, constituted political as well as economic naturalisation: unequal outcomes that if planned would have been intolerable, now seemed to be ‘produced by the popular will’ through the objective-rational workings of the market (Jonathan 1990: 116-18 in Marginson 1997: 74).

The creation of government sponsored markets, as implied above, resulted in tighter state control over many areas of activity. For example, the establishment of contestable funding for science in New Zealand enabled a stronger and more interested state sponsored strategy for science. In particular, contestability offered the ability to control externally the direction of funding and the evaluation of research across the science envelope more easily than under a

departmental system led by professional scientists. By extending the reach of the contestable pool of funding to universities in the early 1990s, control over at least some university research could also be achieved. As in many areas of government controlled and funded activity, power shifted from professionals (researchers in this case) to (research) managers who may or may not have been career researchers formerly.

Prior to the mid-1980s, funding to institutions was managed through bulk grants. Within institutions, research programmes were allocated according to scientific priorities, research reputation and quality of ideas. Without the 'benefit' of marketised systems, scientists had worked with New Zealand farmers to produce one of the most efficient and innovative agricultural sectors in the world.

For about 60 years, scientific developments at Ruakura and its sister campuses were quickly adopted on farms, enabling more and better products from milk, meat, wool much to the benefit of everyone's living standards (Stevenson 2004).

Writing in reference to the Australian higher education system, Marginson (2003) states that Australian higher education passed through one of its most successful periods of history between 1960 and 1980. During this time the universities were almost entirely publicly funded and free of tuition charges. They greatly expanded their capacity, engaged in quality basic research and research training and compared very favourably internationally with 'any but a handful of institutions such as Oxford, Cambridge and Harvard' (Marginson 2003: 1). Marginson's point is that Australian universities managed very successfully '*without* recourse to market mechanisms or other competitive methods of funding' (Marginson 2003: 1). There had always been competitive mechanisms in place for universities. For example, competition for '...community esteem, student demand, research credibility and academic respect' (Marginson 2003) was the standard operational landscape for universities worldwide. However, at the time '... government did not see it necessary to exacerbate this existing element of competition, or use it as an instrument of distribution, or control' (Marginson 2003). This description of the Australian higher education system holds true for New Zealand universities in the same period (Butterworth and Tarling 1994).

Privatisation

A key partner to the neoliberal faith in the power of markets as superior allocational mechanisms has been a strong belief in the potential of the private sector to provide for society's needs. Privatisation is seen as a way to reduce the overall size of the state and concomitantly, its financial liabilities. Privatisation could potentially take many forms including: 'the replacement of the state by the market, by another form of state activity, or by non profit-making organisations such as charities or voluntary organisations which are neither private firms nor state enterprises' (Le Grand and Robinson, 1984: 6 in Peters 1999a). In New Zealand the goal of widespread privatisation was clearly signalled in *Economic Management* (Treasury 1984) and strongly reinforced in *Government Management* (Treasury 1987 a&b). Corporatisation of many government services was a first step on the way to full privatisation and was largely managed under the Labour Government through the State Owned Enterprises Act, passed in December 1986. The act established nine government-owned corporations: Land, Forestry, Electricity, Telecommunications, Coal, Airways, Post Office Bank, New Zealand Post and Government Property Services (GPS) (Kelsey 1997). Corporatisation was extended to a wide range of other government 'services' leading up to the 1990 election. By the time the National party came to power in 1990 there was little left to corporatise (Kelsey 1997). However, the new government did proceed with restructuring the Housing Corporation, and hospitals were reorganised into 23 Crown Health Enterprises to be run along commercial lines. The other major corporatisation exercise was completion of the national science restructuring with the establishment of the ten Crown Research Institutes (CRIs). By 1990 '... Labour had sold eighteen government enterprises' (Kelsey 1997: 129). The ultimate aim of Treasury officials, the government and the Business Roundtable, though, particularly in the 1980s, was full privatisation.

One side of the privatisation narrative was that the private sector would unproblematically step in to fill any voids left by the government retreat from funding or provision of 'services'. In terms of research, in the national science system and the universities, the expectation was repeated constantly through policy documents that the private sector would start paying for the research it needed and this would enable public funds to be directed to the funding of basic research, if not withdrawn altogether. In fact the New Zealand private sector has continued to stay well below the OECD average in terms of its investment in R&D (research and development), due no doubt to the absence of tax breaks for R&D until the 2000 budget under a Labour- led coalition government, as well as to the modest size of most New Zealand

businesses. In addition, a general impulse towards privatisation created the possibility that research could be carved off the core responsibilities of the universities and carried out by whatsoever organisation could do it more efficiently (Treasury 1987). In this way, erstwhile university research might also be fully privatised. Michael Peters (1999b) points out that the case for privatisation ‘was strong on *a priori* theorising and weak in empirical confirmation’. Certainly, nobody in New Zealand had tried to model or test what kind of institution a university might be without research as a core activity, or whether, indeed, New Zealand would have any universities if such a thing occurred.

The other side of the privatisation narrative was that the organisations themselves would be privatised. For example, the newly established Crown Research Institutes (CRIs) were required to manage themselves as though they were a private corporation and to make a profit. In the new institutional form privatisation was a distinct possibility whereas that was simply not the case prior to the restructuring. In the tertiary sector the move towards privatisation was underscored by the strengthening of the private tertiary education institutions in the 1990s. Under the Education Act of 1989 PTEs (private training establishments) were able to compete with government institutions for government funding as well as to offer degrees.

Public choice theory (PCT) and agency theory (AT)

Another core concept of neoliberalism which was pivotal to changes in New Zealand tertiary education research and national science was that of public choice theory (PCT) and its related notion of ‘capture’. Peters and Marshall (1996) explain how the concepts of PCT developed from the work of Gordon Tullock (editor of *Public Choice*) and James Buchanan (see 1986, for example). These theories, they point out, are most clearly expounded in the New Zealand Treasury document, *Government Management* (1987). They involve the application of economic theories to public institutions so that these might operate on a cost benefit analysis similar to the private sector. PCT revolves around two ideas. The first idea relates to the Hayekian notion of catallaxy or spontaneous order. The term is borrowed from physics and applied as a theory of society ‘whereby order in society is a spontaneous formation given by the economic theory of unhampered market exchanges’ (Peters and Marshall 1996: 81). This idea is extended by Buchanan from individuals to institutions and leads public choice theorists to ‘... favour market-like arrangements and/or the decentralisation of political

authority' (Peters and Marshall 1996: 82) with the idea that people should be able to choose from options rather than be forced to accept one mode or possibility of 'delivery' (service).

The second idea of PCT is that '... individuals are modelled as seeking to further their own interests defined in terms of net wealth positions in politics as in other aspects of behaviour' (Peters and Marshall 1996: 82). This idea led, particularly in New Zealand, to government by individualised contract (epitomised most clearly after 1990 and the Employment Contracts Act) and a minimalist state, since people were understood to be mostly able to look out for their own interests. This was a sea change from New Zealand's former understanding of itself as '... a consensus state based on general rights and the collective or social good of citizen members' (Butterworth and Tarling 1994: 67).

Butterworth and Tarling (1994) explain the three sides to the notion of capture in the New Zealand context. 'Consumer capture' refers to a situation whereby some groups of users of state provided service or goods secure preferential treatment at the expense or interest of others. 'Provider capture' refers to the situation where institutions work to advance their own interests at the expense of the services and products they supply to their so-called consumers. And 'administrative capture' describes the situation where government departments not directly involved in the production of certain goods and services nevertheless work to advance their own objectives over the provision of those services. Paradoxically, examples of all three types of capture seemed rather easier to call up in the period after 1984 than before (Campbell 1999).

Butterworth and Tarling (1994: 69) note that the concept of administrative capture in particular 'became a leitmotif of the debate on restructuring the public service as a whole.' A key example of this was the Picot Report (Picot et al 1988) which advocated the balancing of provider (teacher interests) with those of consumers (parents) through devolution of responsibilities for the 'management of schools' to elected boards of trustees (mainly parents). The thrust of the changes were that teachers and bureaucrats, no longer to be trusted as trained and experienced professionals generally acting for the 'greater good', were to become accountable to parents/consumers. The other key accomplishment of Picot (Picot et al 1988), directly in line with a neoliberal urge to reduce overall costs of government, was to shift the cost of management from the government through the old Department of Education to teacher/ headmasters and the largely voluntary efforts of parents.

Closely related to PCT, agency theory (AT) was drawn from the business sector and applied to the public sector as a way of deriving higher accountability and performance from agents (employees) who may not see their own interests aligning with principals (their bosses). Foucault observes that western societies have moved increasingly towards various forms of surveillance as it became understood (from the eighteenth century onward) ‘that it was more efficient and profitable in terms of the economy of power to place people under surveillance (various forms of accountability and performance measurement) than to subject them to some exemplary penalty’ (Foucault in Gordon 1980: 38). In New Zealand this concept was rigorously applied to the public sector where it was judged that ‘market incentives and sanctions did not operate’ and therefore other ways to control/’tone’ employees had to be found. The idea was not so much to punish recalcitrants but rather to transform who they were:

AT theorises hierarchical work relationships as contracts where a principal becomes a commissioning party to specify or delegate work to an agent to perform in return for some specified sanction or reward. As such it is concerned how to extract compliance from a voluntary exchange relationship based on dependency. Hence, it speaks to the relationship between employer and employee in all types of work contexts – schools, government agencies, universities and businesses (Olssen 2000: 26).

AT led to the severely disaggregated forms of reorganisation which swept through New Zealand’s public sector. New organisations were given their legislative form through the State Sector Act (1988) and the Public Finance Act (1989). In particular, there was a drive to keep policy and production separate, hierarchies visible and thus accountabilities clear.

PCT and AT underpinned fundamental changes in both the science system and tertiary education. For example Palmer (1994) explains how the break up of New Zealand’s science system, previously based on the model of departmental heads leading groups of science professionals and combining the roles of policy advice, funding allocation and provision of research ‘services’ in the one department, changed fundamentally:

Public Choice Theory with its emphasis on budget maximising behaviour of bureaucrats and produce capture, influenced the government’s decision to decouple policy advice and policy implementation. A further influence was the advent of contestable policy advice to Ministers to avoid capture by a particular group. The trend towards emphasis on transparency and attempts

to reduce the influence of possible vested interests in government policy making is another example of public choice theory (Palmer 1994: 22 - 23).

In the case of the universities, the Hawke report (Hawke 1988) and the *Learning for Life* documents (Goff 1989 a & b) asserted that academics might not be as productive, flexible or as useful for workforce 'training' as they ought, especially in terms of their research. Perhaps they required 'vigilance, surveillance, performance appraisal, and ... control generally' in order to be kept 'up to the mark' (Olssen 2000:10). For example, Hawke (1988: 62) wrote: '... university staff are normally required to be engaged in research and research by other PCET staff should be welcomed. The existing accountability mechanisms for monitoring the outcome of the public assets and public funds provided for such research are inadequate'. His answer was a proposed Public Scholarship and Research Agency (PSRA) among whose duties would be to receive and audit '... internal assessments of the effectiveness of PCET research' (Hawke 1988: 63). While the PSRA never came to fruition, the PBRF would address Hawke's concerns in a more elaborate form some fourteen years later.

Inputs, outputs and efficiency

Closely related to PCT and AT was the idea that everything needed to be much more efficient. That is, stringently measured 'inputs' (funding) were supposed to produce higher ratios of 'outputs' (product). Greater efficiency was supposed to lead to higher productivity in all areas, which was, in turn, to lead to strong economic performance. The call for accelerated economic performance was both a product of the new theoretical approach to government in New Zealand (increasing profit/being successful is the leitmotif of post Keynesian capitalism) and produced the circumstances whereby radical measures were accepted as necessary. As Kelsey (1997: 29) has noted, 'The unstable political and economic conditions in which the 1984 snap election was called seemed almost scripted to facilitate urgent and radical change'. Just three years later the 1987 stock market crash and increasing unemployment in New Zealand bolstered calls for economic growth and the need to more intensively work existing resources.

The most stringently targeted sectors were those funded through taxpayers' money. New Zealand's bureaucracy, health system and education system were all increasingly driven to mimic an imagined ideal corporate sector in terms of management structures and budget driven policies. Government departments and quasi government agencies were expected to compete and turn a profit. Marginson (1997: 119) wrote: 'Neo-classical input-output models

enabled public sector institutions to be reconceived as stand-alone corporations in a market, with their own products, clients, shareholders, revenues, shadow profits and market shares and standardised inputs and outputs to which costs and values were assigned'. As noted above, an extreme example of corporatising and pseudo privatising policies was the development of the CRIs (Crown Research Institutes). Established from the break up of New Zealand's government funded science institutes, the CRIs were put in the paradoxical position of having traditional company structures and commercial powers while at the same time having to maintain clear accountabilities to the Crown as 'owner' (Ministerial Science Task Group 1991). There was an expectation that commercialised supplementary streams of income would alleviate government's obligation to fund at the same or higher levels in the future.

Lyotard observes that the drive for efficiency is underpinned by a faith that the whole is knowable and therefore controllable. He notes that such instrumentalism can be traced back to Comte who conceived of society as a 'unified totality' (Lyotard 1984: 12) and that '... "technocrats" also subscribe to this idea. Whence its credibility: it has the means to become a reality, and that is all the proof it needs'. Lyotard later describes the principle of optimal performance as deriving from the technological language game and as resting on maximising output and minimising input. As he says, a technical or efficient move '... is "good" when it does better and/or expends less energy than another' (Lyotard 1984: 44). Lyotard asserts that the discourse of efficiency seeks legitimacy in power rather than more traditional metanarratives of truth, reason, God and emancipation.

The production of proof, which is in principle only part of an argumentation process designed to win agreement from the addressees of scientific messages, thus falls under the control of another language game, in which the goal is no longer truth, but performativity – that is the best possible input/output equation. The State and/or company must abandon the idealist and humanist narratives of legitimation in order to justify the new goal: in the discourse of today's financial backers of research, the only credible goal is power. Scientists, technicians, and instruments are purchased not to find truth, but to augment power (Lyotard 1984: 46).

Like Lyotard, Foucault sees that the impulse towards strict computations of minimum expenditure for maximum return constitute at one and the same time a calculation of power. He observes that the shift began to happen in the seventeenth and eighteenth centuries with the demise of the sovereign and the totality of the sovereign – subject relationship and has

continued to intensify and increase its domains since then. Rather than being a mechanism which focussed on wealth and commodities, its specific mechanism ‘permits time and labour ... to be extracted from bodies’ (Foucault in Gordon 1980: 104). The mechanism of power is exercised through forms of surveillance ‘rather than in a discontinuous manner by means of a system of levies or obligations distributed over time’ (Foucault in Gordon 1980: 104).

In New Zealand, the ostensible idea was that, by trying to accurately measure inputs and their resulting outputs, resources could be deployed more effectively. This intensive emphasis on measurement was in many ways futile since the things that were being measured were immeasurable or only crudely measurable. Nevertheless, inputs and outputs became a standard part of the New Zealand lexicon in many professional fields throughout the 1980s and 1990s. By the time the Performance Based Research Fund (PBRF) was implemented by a supposedly post neoliberal Labour-led coalition government in 2003 the input/output concept apparently stood beyond critique. When academics were required to identify and substantiate their publications and presentations, these were labelled Research Outputs (ROs). In much of the critique and evaluation of the PBRF system the statement RO and the philosophical premise on which the name rested was hardly questioned (for one exception see Roberts forthcoming 2006). It was as though no other ways of languaging these things existed. To some extent, this was the case. If research ‘performance’ was the ‘problem’ and therefore needed to be monitored, measured and compared, then an ‘output’ was what one would require if one was to measure ‘performance’. The issue of naming comes back to the context within which policy problems are set (see Scheurich 1994).

Homo economicus and narcissism

The neoliberal movement has been described by Michael Peters as ‘... a renewal of the main article of faith underlying classical economic liberalism based on the assumption of *homo economicus*. Its major innovation is to apply this assumption of self-interest to all behaviour: economic, social and political’ (Peters 1995b: xxxvii). *Homo economicus*, as Peters and James Marshall (1996: 63) explain, is a ‘universalist conception’ constructing all human beings as self-referential, rational utility maximisers. People are regarded as being motivated only by a desire to maximise their own benefits through the act of *choice* in all areas of activity. Hazeldine, more colloquially, states:

The basic postulate that underpins economic rationalism is this: every individual acts totally and solely in their own self-interest. In the jargon, individuals are rational, self-seeking, optimising, opportunistic ‘agents’; in more everyday language, *Homo economicus* is a selfish shit. (Hazeldine 1998: 81)

Hayek’s idea was that everyone could be turned into variations of the one subject:

New Right figures of the universal consumer and the universal taxpayer cut across local political associations and identities, enabling the New Right to establish a *tabula rasa* on which new subject positions could be inscribed The figure of the universal consumer was attractive, calling up a sense of empowerment and gratification based on consumer sovereignty and the rights of ‘choice’ There were specific variants of the ideal liberal subject: enterprising owners, good managers, canny investors, productive workers, caring parents, promising students and so on. Like the myriad of different subject-objects recycled in advertising, with their limitless diversity, their endless repetition of a singular and barren theme (buy-now-you-better!), the point at which these different subjects cohered and reinforced one another was the economic individual of market liberalism (Marginson 1997: 80).

An expectation of, belief in and systemic organisation of individualism produces narcissistic behaviours (Lasch 1979) in individuals who are able to self define and then attain society’s ideals (money and/or power). Where knowledge has become the mode of production, ‘performativity’ defined as success extends to the context of research. To invoke the New Zealand PBRF example again, the research assessment exercise is principally based on the research ratings of individual researchers (rather than groups or departments, like the British Research Assessment Exercise (RAE)). In addition, ‘profiles’ have to be skilfully and tactically filled in in order to promote one’s own contribution to the research environment and to measure the ‘esteem’ the researcher is held in by peers. To list published research is not sufficient ‘evidence’; one has to write about oneself and one’s research successes with little regard for modesty (particularly in the Peer Esteem category). The exercise amounts to a kind of self-proclamation, requiring researchers to constitute themselves as experts who have answers (one who knows) rather than philosophers who ask questions (one who questions). As Lyotard observed these are ‘two very different language games’ (Lyotard 1984: xxv) and suggest different ways of being in society. Schultz (1998) points out that in the postmodern neoliberal era the desire to be right (modernist thinking) gives way to the desire for ‘success’ (performative thinking):

The ideal of universal freedom and equality deteriorates into the desire for the infinity of the individual will, eventually leading to the monomania of captains of industry, the new culture heroes and role models, such as Howard Hughes, John Rockefeller and Dale Carnegie (Schultz 1998: 10).

This could just as easily be extended to star researchers (like Frances Fukuyama) branded with their key sound bite messages (the end of history) who travel the world and pedal their wares as examples of what academics 'are' or perhaps should be.

Mark Olssen (2000) contends that while *homo economicus* might be a self interested individual supposedly free from the constraints of the state, under public choice theory he actually becomes 'manipulatable man', and, paradoxically, state-constructed man. Perpetually under suspicion of rent-seeking behaviours, the individual becomes continually responsive to new forms of control and in this way is actively shaped by the state and indeed shapes himself, thus enabling a kind of 'governing without governing' (Rose 1993), Foucault's disciplined body exercising its own biopower. Foucault is unequivocal in his rejection of a sovereign subject. He says:

... a sovereign, founding subject, a universal form of subject that one could find everywhere. I am very sceptical and very hostile toward this conception of the subject. I think on the contrary that the subject is constituted through practices of subjection, or, ... through practices of liberation, of freedom...starting of course from a certain number of rules, styles and conventions that are found in the culture (1989: 313).

This kind of governing without governing (or exercise of biopower) can be observed in the changing behaviours of New Zealand's increasingly entrepreneurial scientists as they turned their attention to winning bigger and more research contracts in competition with their peers after the structure of the science system changed. More than ten years later New Zealand's academics would begin to discipline their lives and their research to fit the requirements of the apparatus and technologies of PBRF.

Liotard also differs fundamentally from Hayek on the concept of the universal subject. In answer to neoliberalism's assertion that each person is an individual island, an autonomous free choosing entity, Lyotard (1984: 15) points out: 'A *self* does not amount to much, but no self is an island; each exists in a fabric of relations that is now more complex and mobile than ever before'. Lyotard (1984) argues that the social fabric is essentially held together through a myriad of language games in which we are all constantly engaged with and connected to each

other by virtue of our posts of sender, addressee or referent. As noted earlier, this idea that language is an integral instantiation of the social bond is quite different from the modernist idea that reality and thought exist prior to language and language simply reflects thought and reality. Agency is significantly constrained by our positioning through discourse but never entirely so: ‘No one, not even the least privileged among us, is entirely powerless over the messages that traverse and position him’ (Lyotard 1984: 15).

Discursive management

Certainly Hayek understood discursive power and the time frames needed to embed new discursive formations. Borrowing ironically from John Maynard Keynes, Hayek quotes:

I do not find myself often agreeing with the late Lord Keynes, but he has never said a truer thing than when he wrote, on a subject on which his own experience has singularly qualified him to speak, that “the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas. Not indeed, immediately, but after a certain interval ...” (Keynes 1936: 383-384 in Hayek 1949: 108).

In a discussion on the necessity of competition to improve overall performance (and therefore society in general), Hayek points out that ‘... Competition is as much a method for breeding certain types of mind as anything else: the very cast of thinking of the great entrepreneurs would not exist but for the environment in which they developed their gifts’ (Hayek 1979: 76). He also notes, somewhat patronisingly, that it is the responsibility of a few ‘rational’ beings armed with superior knowledge to lead the charge in creating the conditions (including discursive conditions) for competition:

The intellectual growth of a community rests on the views of a few gradually spreading, even to the disadvantage of those who are reluctant to accept them; and though nobody should have the power to force upon them new views because he thinks they are better, if success proves they are more effective, those who stick to their old ways must not be protected against a relative or even absolute decline in their position. Competition is, after all, always a process in which a small number makes it necessary for larger numbers to do what they do not like, be it to work harder, to change habits, or to devote a degree of attention, continuous application, or regularity to

their work which without competition would not be needed (Hayek 1979: 76 - 77).

The Hayekian project, then, was always one self-consciously designed to provide discursive-strategic leadership. The hearts and minds of leaders around the western world were won through ‘... thirty years ... [of] ... ideas... recycled in seminars, bulletins, think tanks, books and newspaper articles’ (Marginson 1997: 54). As Marginson (1997: 54) states: ‘The long-term strategy paid off. After the collapse of regulated exchange rates in 1971, followed by recession, Keynesian strategies were discarded; and it was the programmes of Hayek, Friedman and others that filled the void’.

The New Right in New Zealand also had to reshape the country’s understandings of its past in order to produce the swift changes which were introduced after 1984. In New Zealand, these discursive moves were introduced by Treasury, one of the main interpreters of economic rationalism/neoliberalism. The two Treasury documents written for the incoming 1984 and 1987 governments, *Economic Management* (Treasury 1984) and *Government Management* (Treasury 1987 a&b) respectively outline the changes envisaged for New Zealand society. The word *management* in the title of both documents accurately pinpointed the intended philosophical shifts. Management by government albeit it at a distance and mediated by government created markets, defined neoliberal political changes in New Zealand. ‘Management’, encapsulated the new logic of government organisation. Marginson (1997: 86) writes:

Corporate management consisted of a cluster of techniques in which public services were codified as a form of economic production, and refashioned on the basis of competition and business practice. Central planning and financial management, programme budgeting, product definition, output measurement and cost control were coupled to a system of local managers with operational autonomy, tethered to the centre by accountability arrangements. Institutional targets were specified in the form of economic outputs. Organisational activities were divided into programmes based on specific outputs and targets and budgets. Corporate management privileged quantifiable activities over intangible activities

Under neoliberalism, management structures which could secure control and increase efficiency were installed in public institutions. These had the effect of generally reducing professionalism and systems of representation. Management became a skill and a tool that could be applied without recourse to the specificity and historicity of an institution or class of

institution. For example, where doctors and nurses had previously run hospitals, ‘generic’ managers were employed at top levels in the New Zealand health system with no experience or prior knowledge of the sector. Neoliberal theories dispensed with the idea that corporations and public institutions were run along different lines, following essentially different logics (Marginson 1997).

The changes implemented by the incoming 1984 Labour government were discursively heralded by the Treasury document, *Economic Management* (Treasury 1984). *Economic Management* ranged far more widely than any previous Treasury document and signalled the wholesale transfer of a wide range of activities from the political sphere to that of economic management. Roger Douglas (Finance Minister) wrote in the introduction: ‘...this is the first occasion on which Treasury’s discussion of a wide range of policy issues has been released’ (Treasury 1984: iii).

The revival of human capital theory in the 1980s cast education as the key factor in driving productivity and economic growth (Marginson 1997) and if economic growth was not satisfactory then education might well be blamed. In the midst of a widespread sense of economic crisis in New Zealand in 1984, this is exactly what happened. In a section entitled *Education and Labour Market Links*, education is set up as the fall guy for the economy (Treasury 1984: 76 - 77). Later in the document at least part of the problem is attributed to the capture of tertiary education by the middle and upper classes. Under the heading *Shifting and Middle Class capture*, the writer, relying on a non referenced British example, explains that tertiary education is a ‘net gain’ for the elite:

Among the most extreme examples of capture is tertiary education, which in Britain has been estimated to represent a transfer of \$5 to the rich for every \$1 to the poor (Treasury 1984: 259).

The explicit construction of tertiary education as a problem and target for future policy changes is particularly addressed in the passage *Tertiary Education Issues* (Treasury 1984: 268 - 269).

Strong social policy reasons cannot readily be established for the direct Government supply of tertiary services largely free at the point of consumption. Private education choices at this level are discretionary investment or consumption decisions (that is, tertiary education is more a private good than a public good), since the individual users capture most of

the benefits of higher education in their own lifetime earnings or increased utility. Despite this observation, one clear reason for government involvement in this area has to do with resource redistribution objectives, whereby a government may wish to offset ability to pay constraints on tertiary participation. A more selective targeted approach would meet this objective with least wastage.

Existing problems with tertiary education are essentially those general problems of public provision outlined above, associated with relative insulation of suppliers from consumers, low incentives to minimise costs and sluggish ability to change resource distribution for optimal return. In addition, the gradually increasing use of relatively inefficient quota methods of rationing course demand is becoming apparent, with clear labour market consequences.

Such an analysis suggests that a relatively strong case can be made for greater use of market processes in the provision of tertiary education with an important role remaining for state subsidisation. Initially this might be accomplished by recasting and to some extent reducing existing public spending in this area. Significant immediate initiatives could include the pricing of tertiary services (for instance, more fully charging for the different costs of courses) and implementing differentiated government financial support to students (on the basis of need). In the long term, private suppliers, who are currently crowded out of this sector by the dominance of government provision and by a restrictive regulatory environment, could be encouraged to participate. This would improve the responsiveness of tertiary sector supply to consumer monitoring in terms of teaching performance and the range and nature of services.

The passage reads more like an economics text on consumer goods and services (which in a sense it is) than a text on tertiary education. Certainly, the statements employed in the text are different from previous ways of thinking, reading and speaking about tertiary education in New Zealand. For example, a keynote address by Professor Alan Titchener at an Association of University Teachers seminar in the late 1960s at University of Auckland talked about the first responsibility of university teachers as being to their branch of learning. This

... entailed the integration of new knowledge with old and the contribution of new knowledge or ideas to that learning. Given that this set of obligations took precedence over all others ... these duties constituted the unique function of the university, the function that set it apart from other educational institutions (Butterworth and Tarling 1994: 64).

In *Economic Management* there was no sense of a unique mission for universities distinct from other tertiary education institutions, nor a concept of furthering disciplinary knowledge. The text is focussed entirely on the funding and economic role of tertiary education.

While the economic discourse of *Economic Management* might have seemed quite unusual in the context of education, the particular themes in the text built on difficulties that had been discussed for some time: minimising the cost of tertiary education certainly struck some chords. It was also acknowledged that the New Zealand economy needed more, and more well qualified people, and that it was tertiary education's job (at least partly) to provide these. In line with these expectations university curricula could be seen by critics to lack relevance to a rapidly changing economy.

The macro structure of the *Tertiary Education Issues* text is that of a problem solution text (Hoey 1983) where the problems are enumerated in the first two paragraphs leading to the solution in the third paragraph. The text takes the 1980s OECD position (Marginson 1993 in Olssen 2000: 20) that the problems with tertiary education are associated with the fact that it was largely government funded and 'delivered' through public institutions. This was incompatible with the newly favoured policies of user pays, smaller government and the idea of education as a private good. In addition PCT dictated that the apparent lack of choice of courses and ability of 'provision' to rapidly adapt to labour market 'needs' was also a problem. The solution was the application of 'market processes' but 'with an important role remaining for state subsidisation' which would take a much more targeted approach to funding. In this policy text on tertiary education, research is not explicitly mentioned but is presumably included in the statement '... range and nature of services'.

Public goods and other discursively constructed 'problems'

Certain themes from this initial policy statement would be recycled into tertiary education research policy and also science policy in the ensuing years to construct a dominant 'regime of truth' (Foucault in Gordon 1980: 133). The public - private dichotomy, in particular, would be prominent. For example, research carried out in universities was soon discursively divided into that which was public good (see Hawke 1988) and that which was 'appropriable' (that is could be used and therefore paid for by someone else). The restructuring of the science sector in 1989 led to the major fund for state science being named the Public Good Science Fund (PGSF). Partly this was shorthand to substantiate government support in an area of apparent

‘market failure’ (see Peters 1994) i.e. the market is unable to/will not provide for science which the public needs. In fact the fund primarily supported research for economic development, making it eventually very hard to argue the case for ‘public good’. The name of the fund was removed when the Labour-led coalition came to power in late 1999.

Marginson (1997: 28-29) explains that: ‘... in neo-classical economics the market-state dualism is conflated with the public-private dualism, in such a way as to privilege market production over non-market production’. Public goods in this context are defined in terms of their non-rivalrousness and their non-excludability. ‘Public goods were under-provided in markets, as individual producers derived insufficient profit from them. All other goods were seen as ‘private’ goods. Non-market production was the residual, the market tended to the universal’ (Marginson 1997: 29). In a context where the market was being discursively produced as natural, beneficial and inevitable, markets in tertiary education and research, by association, would be constructed in the same way.

Another theme from this text was the general torpor of the academic sector (‘sluggish ability’, ‘relatively inefficient’) and their lack of responsiveness to change. The author’s inference was that there was more productivity that could be squeezed out of academics through marketised systems. In addition, a competitive and enlarged private tertiary education sector would also theoretically give academics the competitive incentive to improve their productivity. Olssen points out that through Hayek ‘... there is a real analogy to Darwinian natural selection in that the profit-loss system provides a mechanism for the elimination of unfit systems’ (Gray 1984: 32 in Olssen 2000: 16). The ‘solution’ of market processes coupled with a reduction in ‘state subsidisation’ (in this case funding is relexicalised as ‘subsidisation’) would translate to less funding for research in universities. Research funding in the national science system would also decrease over the 1980s, but would begin to increase in the 1990s as the idea of knowledge as the fuel of economic growth took hold.

The above position statement on tertiary education in *Economic Management* (Treasury 1984) marked a discursive rupture for New Zealand in the way university and polytechnic education had previously been written and spoken about. It was the first time that the sector had been publicly and decisively constructed as an economic service. Statements not previously associated with the sector are listed in the table below:

Lexical items/collocations introduced from an Economics lexicon in the passage ‘Tertiary Education Issues’ (Treasury 1984)

Supply	Rationing course demand
Consumption	Labour market
Users	Market processes
Capture	State subsidisation
Earnings	Pricing
Utility	Tertiary services
Ability to pay constraints	Fully charging
Provision	Private suppliers
Suppliers	Restrictive regulatory environment
Consumers	Tertiary sector
Minimise costs	Consumer monitoring
Resource distribution	Teaching performance
Optimal return	Range and nature of services
Inefficient quota methods	

Writing some thirteen years later about ‘the New Zealand experiment’ Jane Kelsey (1997: 394) provided ‘A Manual for Counter - technopols’: ‘A preliminary checklist of potential pitfalls and strategies for resistance, drawn from New Zealand’s experience’. Among the near

six pages of guidelines for those wishing to avoid the New Zealand experience, she included advice for evading discursive control. Kelsey advised ‘Resist market-speak – maintain control of the language, challenge its capture, and refuse to convert your discourse to theirs. Insist on using hard terms that convey the hard realities of what is going on’ (Kelsey 1997: 396).

As noted above, the discursive reshaping of tertiary education in *Economic Management* (Treasury 1984) was an abrupt break with the past (Butterworth and Tarling 1994). It represented a discontinuity in Foucauldian terms whereby, at least in some quarters, discursive objects (the universities in this case) stopped being constructed in one way (contributors to national development, producers of disciplinary knowledge) and instead were constructed in entirely new ways (providers of services which might be ‘chosen’ for discretionary investment by government and consumption by students) (Foucault in Gordon 1980). The lack of any explanation for the change appears to strengthen the force of the new discourse as it gives it a ‘taken-for-granted’, ‘why would things be any different’ quality. The discursive shift is reinforced later when the text discusses the introduction of ‘private suppliers’ who would apparently be able to improve the responsiveness of the sector and ‘the range and nature of services’ (Treasury 1984: 268-269). The construction of tertiary education in *Economic Management* seems more like a market for hamburgers than what happens in a university or polytechnic setting when courses are organised for learning.

The ongoing materiality (Foucault 1969) of some of these statements has persisted for more than twenty years (for example, tertiary services, teaching performance, tertiary sector, consumption, provision), suggesting that it has become too difficult (although certainly not impossible!) to think and speak differently. This ongoing materiality also suggests that many of these terms constitute new and changed practices, not just new ways of talking about existing practices.

Conclusion

This chapter has contextualised research policy changes with an overview of neoliberal theory as it was introduced into New Zealand after the election of the 1984 Labour government. The construction of markets by government was important in enabling the rearrangement and increased control over publicly funded activities like national science and tertiary education. PCT, AT and associated theories of capture were central to the final design of the restructured

national science system, in particular splitting the functions of policy advice, funding allocation and production in the form of the Ministry of Research, Science and Technology (MORST), the Foundation of Research, Science and Technology (FORST) and the Crown Research Institutes (CRIs) respectively. The idea of the foundational figure of neoliberalism, homo economicus, Hayek's rational utility maximiser, also strongly underpinned changes. This figure was supposed to be always seeking and striving for the optimum outcome for himself; in his striving he became governable and governed through defining his own success in society's terms. This enduring concept has constituted the researcher as a hyper-competitive entrepreneur always ready to chase the next research contract, a researcher who values 'success' (higher PBRF grades, doing profit 'able' research, more contracts, faster completion times, more publications, more collaborations) over truth (time consuming and could be proved wrong). Finally, the chapter has highlighted the centrality of discursive change to the ascendancy and dominance of neoliberal forms of governance in New Zealand. It has attempted to do this through a brief consideration of the passage *Tertiary Education Issues* from *Economic Management* (Treasury 1984). The shift in ways of talking and writing about education and research would constitute new research practices. The materiality of some of the language, originating from an economics lexicon/register, has proved to be very stable and twenty years later increasingly constitutes what gets done, and who is successful in research. One prominent example of this ongoing circulation of discourse is the Performance Based Research Fund (PBRF) the very name of which harks back to the emphasis on a need to measure academic performance in *Economic Management* (Treasury 1984). The PBRF process requires certain narcissistic and competitive behaviours of researchers who have to (among other things) list their Research Outputs (RO's) in order to have their 'performance' compared.

With a one-size-fits-all approach to policy and its implementation and a desire to drive through changes as fast as possible it was inevitable that tertiary education would be high on the list of areas for reform in the 1980s. The science system, however, was not initially identified by Treasury as a priority for restructuring. In the early 1980s the national science system was far from a leading public agency/department. Rather it was a poor cousin, a policy afterthought. Nevertheless, once national science came to Treasury's attention changes happened fast: 'Government policy on contestability in DSIR had emerged only after one of those engagements familiar in Wellington between Treasury Ministers and their current target Minister' (the Minister of Science, R.J. Tizard) (Butterworth and Tarling 1994: 236). The

following chapter considers key discursive moves in research policy in the tertiary education sector while chapter six will examine discourses of restructuring in the science sector.

Chapter Five

Tertiary education, Hawke and officials' reports

The term 'research' is by nature more specific and is part of scholarship. Research is the act of searching (closely, carefully) for or after a specific thing or person. Research is a search or investigation directed to the discovery of some fact by careful consideration or study of a subject; a course of critical or scientific enquiry. It also means to search into, to investigate or study closely (PSRWP 1989: 20).

Introduction

This chapter analyses the key discursive moves in tertiary education research policy during the late 1980s and early 1990s. Unlike the science system, the universities were able to stall the full effects of marketised systems for research through an intensive and potentially litigious engagement in the policy-making process. However, other fundamental changes to the tertiary education sector reflected a strong neoliberal policy blueprint. For example the tertiary education sector was moved towards homogenisation as polytechnics and private training establishments were given the right to offer degrees alongside the universities. This 'effect' was supposed to deliver more of a 'level playing field' for institutional competition. The increase in degree granting institutions would in turn allow for more 'choice' of 'degree provider' to 'consumer' students and their parents. The University Grants Committee (UGC) was disbanded, thus depriving the universities of their political buffer and concomitant perception of autonomy from government interference. Student fees were raised substantially. It was during this phase that interaction between the national science and tertiary education research policy sectors became explicit and an interdiscursivity between policy discourses was increasingly apparent. What was considered good policy in one policy site would be carried across to the other. The pattern tended to be changes in the science system constructing research discourses within tertiary education. Partly, this was a result of the application of the same theoretical approach for all sectors of government activity being increasingly embedded in state legislation (e.g. State Sector Act 1988 and the Public Finance Act 1989). Even hospitals were expected to rearrange their services to reflect corporate, business and marketised structures. In the case of research the reasoning was that if X was to happen to government science then should not the same be applied to research in the universities? The increased interactivity of research policy development was also the result of

a certain awareness, apprehended only vaguely in the late 1980s, that research could be New Zealand's answer to becoming economically competitive on an international scale once more.

Lyotard notes that the changing status of knowledge and particularly scientific knowledge in the post second world war period transforms the two principle functions of knowledge: research 'and the transmission of acquired learning' (Lyotard 1984: 4). His prediction is that both functions are irreversibly transformed through technology, particularly the development of personal computers and the requirement that for knowledge to count it has to be transmittable along computer cables (these days we might say through airwaves as well). Knowledge that can be communicated in this way gains exchange value, whereas the 'use' value of knowledge becomes less important. That is, the question, 'can it be sold for a profit' eclipses the age old question, 'is it useful'? In this analysis universities become integral to the tectonic shifts in western society. However in New Zealand the full integration of the universities into national knowledge policies took much longer than in other like jurisdictions. The universities themselves were aware of their research strengths and strived to point out that much of their research could well have exchange value (NZVCC 1991). Others, however, saw the universities and their expensive academics as a cost that might be able to be offloaded onto the private sector (Treasury 1987b).

The universities and research

Research in New Zealand universities was not very generously funded compared to universities in the United Kingdom and Australia. In 1985 the amount New Zealand spent per equivalent full time student was 67 per cent of the Australian and 66 per cent of the United Kingdom expenditure per student (which bundled teaching and research). Watts et al (1987) noted that the New Zealand amount was about equivalent to Canada but that Canada was in the process of implementing substantial increases to their equivalent full time student funding. The report pointed out: 'It is important to note that universities in these overseas systems have access to large publicly resourced research funds which have no parallel in New Zealand' (Watts et al 1987: 19).

Moreover, despite the international reputations of some of New Zealand's academics, research had not been a focal point of the post-war university structure. New Zealand universities were characterised by open entry and generalist undergraduate degrees

(Butterworth and Tarling 1994). Teaching was the focus and research happened when time and other resources afforded the opportunity. By comparison, New Zealand's government funded science bureaucracies had played a key part in assisting the development of the all-important agricultural sector. Significantly, the main science institutions reflected New Zealand's primary export sectors and the knowledge fields that supported them: the various divisions of DSIR, MAF, the Ministry of Agriculture and Fisheries, the Forestry Research Institute and the Meteorological Service.

The beginning of the 1980s saw a heightened sensibility towards notions of post-industrialism and the information age (not necessarily conceived in these terms). In a growing tide of new, neoliberal approaches to governmentality inaugurated through the Thatcher and Reagan governments, 'science was transliterated once more and emerged as the source of strategic advantage' (Butterworth and Tarling 1994: 63). Countries like the United Kingdom, Australia and USA all perceived that research in their universities, in particular, was potentially crucial in building national wealth:

If knowledge, which had always been recognised as the source of power and wealth, was a global commodity, then clearly the competitive wealth of nations depended on a nationally organised capacity to acquire and deploy it. The strategists of national advantage sought to reorient, if not indeed to requisition, whole systems of education (Butterworth and Tarling 1994: 63).

In New Zealand, though, strong market theories posited that government's role was not to better support and coordinate the tertiary education system but to clear the way for the market to work more efficiently. The paradoxical strategy was to strive for tighter ownership control over the universities, to avoid 'capture' by supposedly self-interested and expensive academics while increasing the competition in the tertiary education field by increasingly homogenising distinctions between 'players'. For example, private educational institutions would increasingly get access to government funding and would even be able to offer postgraduate qualifications alongside the universities.

However, the New Zealand government had a long and difficult time asserting control over the universities especially in the area of internal research organisation. The universities did not see themselves as being 'owned' by the State, nor (initially, at least) as commercial providers of a service. The sector fought strongly against proposed changes at the time of the Hawke Report (Hawke 1988) and a decade later when the green and white papers (Ministry of

Education 1997b, 1998) were released. These documents outlined changes to the universities and other tertiary educational institutions broadly aimed at privatisation in the long run and the arrangement of state subsidised education markets in the shorter term.

Butterworth and Tarling (1994) document and describe the plethora of reports, papers and reviews on education generally, including tertiary education, that were published after the election of the 1984 Labour government. Two key documents written in 1987 were: *New Zealand Universities: Partners in National Development*, hereafter referred to as the Watts Report after its Chairman, Ronald Watts (Watts et al 1987) and the second volume of *Government Management* written by Treasury (1987b) as briefing notes for the incoming government. The Watts Report (Watts et al 1987), commissioned by the Universities Review Committee of NZVCC was released just prior to the Treasury document and produced a far more expansive discourse of tertiary education than *Government Management* (Treasury 1987b). Peters and Roberts (1999) a decade later argued that the two documents drew the battle lines for tertiary education. The NZVCC who sponsored the Watts report had accepted that a review was imminent and that unless the universities took some initiative, they would be dominated by the heavily marketised Treasury position. The Universities Review Committee that produced the report was a high level international group (there was one New Zealander, Dame Jean Herbison) with extensive experience in university reviews in the United Kingdom, Canada and Australia. The committee was chaired by Professor Ronald Watts, a political scientist and former Principal and Vice Chancellor of Queen's University, Canada. He had also been commissioner on the Task Force on Canadian Unity and on the Bovey Commission on the Future Development of the Universities of Ontario, Canada. The committee consulted widely and the lists of organisational and personal submissions numbered 362. These were listed at the back of the report. The report was comprehensive, totalling 165 pages.

The title was significant, *New Zealand's Universities: Partners in National Development*. The initial statement, *New Zealand's Universities*, indicated that the universities belonged to New Zealand, that they were not autonomous (or private) entities unrelated to the rest of the education system, nor to each other. The second part of the title stated that the universities were partners in national development and that responsibility rested on *all* the partners:

Many of our recommendations are directed to the universities collectively or individually. A number of important recommendations, however, relate to

their partners in the development of New Zealand: the Government, the other institutions of tertiary education, the business community and the trade unions, the Maori people, the Pacific Islanders and the community at large. If the universities are to make their full contribution to the country's advancement, it will require the involvement and collaboration of all these partners. We have therefore, included not only recommendations directed to the universities, but also recommendations pertinent to the roles of these partners (Watts et al 1987: ix – x).

The report made frequent reference to the emerging knowledge based society and located the universities as key to building economic competitiveness in this 'new' environment. The universities were congratulated for the levels of attainment they had reached both in terms of the level of their graduates who were internationally competitive at the higher levels and the quantum of research over a variety of fields that had been developed despite relatively meagre resources:

Universities are the hallmark of a society's culture, repositories of accumulated knowledge and wisdom. Their task is not simply to transmit knowledge through good teaching, but also to conduct research and promote scholarship. All these characteristics have been evident in the development of the universities of New Zealand (Watts et al 1987: 6).

In line with Foucault's theory (1969) of the power and repeated materiality of statements, the report engaged with and recycled the neoliberal language and policy preoccupations of the day, addressing 'issues' such as equity, effectiveness, efficiency, and user contributions. However, it also reflexively critiqued these statements and the market discourse they constituted. One example follows:

... any simple hypothesis about a rationale for a university system is likely to be misleading and incomplete. A market view is inadequate; equally suspect is the view that society should simply supply the higher education which people ask for. We have instead to keep a number of objectives firmly in mind. Universities serve a number of purposes. They exist to meet the needs of society for higher education in teaching and research, to assist in social, cultural and economic advance, and to support individual personal development (Watts et al 1987: 7).

The report noted that there was no existing national strategy for higher education and especially research policy in New Zealand. The committee argued that a national strategy would have the advantage of enlisting public support for the universities and gaining clarity

around the benefits of a university education. This was necessary given that less than 10% of the New Zealand population participated in university education by the late 1980s. This was one of the lowest rates among OECD countries (Watts 1987).

The authors determined that New Zealand needed:

1. to clarify the national goals for the university system;
2. to determine the appropriate size and shape of the university system to meet long-term needs for highly educated human resources;
3. to develop a clear national strategy for research;
4. to commit resources to university education and research on a planned basis to meet defined objectives;
5. to develop more broadly based funding arrangements for universities;
6. to develop a proactive policy towards rationalisation and concentration of graduate studies and research, both in expanding and contracting areas;
7. to examine additional sources of funding, not least for research support (Watts et al 1987: 9).

Improving participation while expanding the funding base of the universities was the focus of the report. The latter would prove controversial in an environment where real funding per student had been declining throughout the 1980s. The Committee pointed out that in order to find the support necessary for a national strategy, the universities would need to do a better job of 'marketing' themselves and would need to be seen to be 'responsive and accountable' (Watts et al 1987: 9).

The following outlines some of the points made around research policy. The Watts Report referred to the 1986 Beattie Report on the science system, 'Key to Prosperity: Science and Technology' (Beattie et al 1986) to emphasise the general under funding of research in New Zealand which it stated was close to 'the bottom of the scale for developed western countries' (Watts et al 1987: 21). The report observed that New Zealand was doing much less than its competitors in terms of funding university research and this was compounded by the fact that private funding of research in New Zealand universities was low when compared with other

countries. The report criticised also the extreme under funding of New Zealand university libraries and computing facilities. Postgraduate programmes were charged with being too restrictive in terms of participation and the reliance on sending a number of graduates overseas for postgraduate education was also seen as a problem.

The report was unequivocal in its support for ‘the inseparability of teaching and research’ (Watts et al 1987: 28). It commented on the high calibre of New Zealand academics despite their scant funding for research and noted that the quality had much improved over the previous twenty five years. The committee went on to make several recommendations to the New Zealand universities in terms of research:

1. that more peer review of (UGC and other) research grants was desirable;
2. that postgraduate and particularly doctoral programmes should be more concentrated to allow for critical mass to develop in particular fields. The committee noted that in some parts of the country only one or two doctoral students were located in a department;
3. in line with this recommendation the committee also advocated greater ‘selectivity and concentration of research’ (Watts et al 1987:37);
4. that centres of excellence could be established for research that were based around multi institutional/corporate networking and collaboration. The example given was that of the seven centres of excellence established by the Government of Ontario in 1987. This suggestion appeared to form the basis of the development of New Zealand Centres of Research Excellence (CORES) some fifteen years later;
5. that user pays as a principle may have some limited application for contract research in universities, but that on the whole ‘the ‘user pays’ principle applied indiscriminately to university research may also have serious negative effects (Watts et al 1987: 89).

As Butterworth and Tarling (1994: 101) had noted:

The Watts report accepted some aspects of the “free market” argument, but its essential thrust was different. It advocated a major effort to take New Zealand universities into the twenty-first century, expanding the participation rate, and enhancing their standards, and argued for it on the basis not only of equity and efficiency but of development.

However, the theme of the ‘use’ value of university education and research for economic prosperity was emphasised (although not exclusively) in the Watts Report. This theme would recycle in a more distilled form into tertiary education policy some ten years later, through the four TEAC reports (2000, 2001 a,b&c) and the subsequent tertiary education strategy (Ministry of Education 2002a). Significantly, the Watts Report provided an argument *for* the public support of university research whereas *Government Management* questioned it altogether.

Government management

Treasury had been doing its own work and had its own view of (and language for) arrangements for tertiary education. By 1987, education warranted a whole second volume, 295 pages, of Treasury’s advice to the incoming government. The publication was aptly entitled *Government Management* (Treasury 1987b). Never before (and since) had Treasury had so much interest in and so much to say about the restructuring of education. This level of attention was apparently warranted because ‘... our analysis suggests that substantial elements of current government expenditure are, at best, ineffective when viewed in terms of the equity and efficiency concerns that justify that expenditure. Hence there is danger that further public expenditure in some areas of education will serve only to increase inequity and inefficiency’ (Treasury 1987: vii). Butterworth and Tarling (1994) observed that like *Economic Management*, none of the contributors to *Government Management* had any expertise in the areas they were writing about and this was true for the whole second volume on education as well: ‘Those volumes, ... went much further, indeed well beyond any possible job description it (Treasury) might be thought to have in a system of representative Cabinet government Treasury argued largely on ideological grounds, that substantial change was required’.

In Chapter One of the second volume of *Government Management* entitled, ‘The New Zealand Education System – Setting the Scene’, the role of government was explicitly stated: ‘The Government *provides* education and training services and information about these services, it *subsidises* the consumers of its services and the services of other providers and it *regulates* the production of these services’ (my emphasis) (Treasury 1987b: 1).

Several rhetorical moves were then taken to discursively construct a system in need of radical change:

1. An argument was made that large numbers of children and young people were currently disadvantaged under the incumbent 'institutional and financing structures' (Treasury 1987b: 2);
2. A claim was made that because of the problems with structures there was a transfer of wealth from higher levels of income to lower ones (middle class capture);
3. An assertion was made that 'educational outcomes' were either 'declining or not improving';
4. Education was presented as the same as any other 'service' and could therefore be analysed in economic terms. However, the writer warned against isolating too many in the profession by using the language of economics. The advice was, '... in education ... it can be useful for ease of communication to use an approach and terminology that is more familiar to those involved' (Treasury 1987b: 2);
5. The (fast) pace of technological change was given as a reason for education structures to change as well. Education policies which apparently worked well in 'more leisurely times' were not up to the 'sudden gear shifts' of society in the new technological era (Treasury 1987b: 4);
6. It was asserted that individuals (consumers) should be free to choose from a range of education 'options';
7. The lack of efficiency in the education system was said to be a concern, however difficult it might be to accurately measure inputs and outputs.

The textual construction of tertiary education from *Economic Management* (Treasury 1984) was repeated through the positioning of tertiary education as a service, the nondifferentiation of purpose across the tertiary sector i.e. universities, polytechnics and private training institutions all appear as 'tertiary providers'. The statements 'efficiency' and 'equity' gained further prominence in *Government Management* (Treasury 1987b) and the pursuit of these two goals provided the rationale for many of the changes suggested. While the public good effects of education in *Economic Management* were questioned, in *Government Management* there was no longer a question; education was considered to be a private good:

Education tends to be thought of as a natural sphere for government intervention because it is a social or public good and because of concerns about equity in the private costs and benefits flowing from education. In the technical sense used by economists, education is not in fact a “public good” educational services are like other goods traded in the market place (Treasury 1987b: 33).

The document can be seen as constituting an important discursive shift (Foucault 1979b) by significant policy actors (Treasury officials) in New Zealand. For the university sector, the government’s language game around research had intensified and new meanings and significations were being attributed to university research (Lyotard 1984). Unlike in *Economic Management* (Treasury 1984), university research received specific attention in *Government Management* (1987b). Chapter six was entitled ‘Tertiary Education’. The author(s) discussed the four functions of education that had been highlighted throughout the preceding chapters (covering the primary and secondary sectors) in regards to tertiary education. These were: the fulfilment function, the integration function, the economic function and the custodial function. These categorisations belong to the field of economics and had not previously been part of the New Zealand discourse on education (Butterworth and Tarling 1994). The writer went on to point out that there were two functions carried out particularly in universities that were not elements of earlier (primary and secondary) stages of education. These were the entrepot function of universities and the research function. The entrepot function referred to the university’s role as an active repository of knowledge and culture for a nation, while the research function referred to ‘the extension and development of knowledge that is possessed by society as a whole’ (Treasury 1987b: 164). The authors went on to state: ‘At the level of postgraduate studies, the research and educational functions *may* merge’ (my emphasis) (Treasury 1987b: 164). The statement suggested that there would not be a merging of the ‘research and educational functions’ at the undergraduate level; implying that there would be no requirement for lecturers teaching at the undergraduate level to do research. Furthermore, the linguistic hedging through the use of ‘may’ raised the possibility of there not being any nexus between research and teaching at the postgraduate level either.

Interestingly, in a text that sought to constitute university and other types of tertiary education as a commodified service through a significant shift in the language used to discuss it, the text nevertheless retained some of what would now be regarded as romantic and nostalgic notions of research and researchers. For example, a researcher was lexically reformulated as an ‘...

independent pursuer of new knowledge and truth' (Treasury 1987b: 164) at the very time the text was constructing research as an optional rather than core activity of the university.

The entrepot and research 'functions' were described as 'non educational functions' which need not necessarily be located in universities. The authors pointed out that research was also carried out by industry (although private investment in R&D had always been minimal in New Zealand) and other government institutions like the DSIR and MAF. The entrepot function, the text stated, was also fulfilled by institutions like libraries, galleries etc. It was suggested that this created a 'boundary problem', raising the question of whether research and the entrepot function *should* be performed by a university, '... the question of who should discharge those functions arises' (Treasury 1987b: 165).

In differentiating so-called entrepot and research functions from the other four functions of education as defined in the text, the writer built an argument for mostly unbundling the funding and therefore 'functions' of teaching and research. Rather than research necessarily being a core function of a university, the author suggested that this need no longer be the case in the 'information age'. The idea, rather, was that research ought to be done by the most competitive 'provider' and should be funded by the highest bidder. 'Government intervention, however, if it arbitrarily bundles research or entrepot funding with educational funding may prevent the most efficient and effective providers of the non-educational functions being allowed to compete or develop' (Treasury 1987b: 178). The suggestion was that government 'intervention' presumably in the form of financial support and legislation may actually be detrimental to research. In this equation, research and teaching were no longer considered different sides of the same coin (Lyotard 1984). Stripped of the responsibility for research (except when explicitly commissioned to do so by those external to the university) universities would be limited to the transmission of established knowledge, thus 'ensuring the replication of teachers' rather than the 'production of researchers' (Lyotard 1984: 39). Moreover, this new requirement for research, that it (or the 'providers' that do it) be 'efficient' and 'effective' rather than true, is, as Lyotard states, a technological game, not a scientific game. It requires 'the principle of optimal performance: maximising output (the information or modifications obtained) and minimising input (the energy expended in the process)' (Lyotard 1984: 44).

In the late 1980s the statement 'research performance' (viz, the Performance Based Research Fund) had not yet entered the policy lexicon. Yet it was a small step indeed from the

expectation that only the most efficient providers would do research to wanting to understand how efficient providers were, to requiring some kind of apparatus (Foucault in Gordon 1980) which would measure performance to judge who in fact the most efficient providers of research were. In neoliberal terms there cannot be ‘good’ performance without efficiency (minimum input for maximum output) being operative; an inefficient performance (too much time and/or too much money) would not rate as a ‘good’ performance (Lyotard 1997).

The Treasury text conceded that there was potentially a situation when research ‘... should be funded by the same means as the direct cost of tuition’ (Treasury 1987b: 173). In-depth background or fundamental research which was ‘... not saleable to a third party’ may be necessary in order to create the right environment for attracting and retaining international level staff and students. The understanding was that research was not a necessary activity of the university although it might be important in supporting other functions such as human resource activities.

For university research, new truths were being produced (Foucault 1979a). These were, for example, that research might be considered an ‘entrepot function’ or that research and teaching costs be bundled only where there was a risk of not being able to attract staff and students of an ‘international’ calibre. What might be said and the contours (or limits) of what could be said about the university institution, at least in public discourse, was changing (Lyotard 1984). With research constructed as something other than a core endeavour of the university, something that was an option rather than a necessity for government funding, something that others could do perhaps just as well and certainly as or more efficiently, and a ‘function’ that was not necessarily tied up in a nexus with teaching, the discursive stage was set for changes to the organisation of research in tertiary education.

Butterworth and Tarling (1994: 125) noted that *Government Management* (1987b) had ‘... reached into the central nervous system of the New Zealand polity’. They added,

The October crash ... lent urgency to schemes which might reduce state spending, and there was mounting pressure on the Cabinet from the office of the Minister of Finance. The notion of an open enquiry to plot a policy through the educational minefield was dropped in favour of a more secretive proceeding, to be defended by pointing to the large numbers of reports already made (Butterworth and Tarling 1994: 125).

The Hawke report

In April 1988 Professor Gary Hawke from Victoria University was asked by the Labour government to produce policy recommendations for government on a review of the government's existing consultative documents. These were: *The Management, Funding and Organisation of Continuing Education and Training* (Probine and Fargher 1987), *New Zealand's Universities: Partners in National Development*, otherwise known as the Watts Report, (Watts et al. 1987) *Government Management* (Treasury 1987 a&b) and *He Tangata*, the Shallcrass report on non-formal education (Shallcrass 1997). Professor Hawke was not required to engage in a wide consultation among the universities and other tertiary education players. It quickly became apparent that contestability, accountability, separation of the teaching and research funding lines, and performance measurement through output formulae, were all central to Hawke's vision for research in tertiary education (Butterworth and Tarling 1994). The *Report of the Working Group on Post-Compulsory Education and Training* (Hawke 1988) (more commonly known after its convenor, Professor Gary R. Hawke, as the Hawke report) was publicly released in September 1988 after secret discussions with individuals rather than open negotiations with the tertiary, and especially, the university sector:

The report - Treasury designer chic locked in a death struggle with the English language, ... affirmed devolution whilst providing for highly centralised structures; asserted teaching and research were interdependent, but proposed a separate funding for each function; stated that councils must "reflect the community" but reduced them in size; claimed that there should be no barriers to entry, but supported charging higher fees (Butterworth and Tarling 1994: 137).

Professor Hawke like other government sponsored policy analysts of the time proposed an 'across the portfolio' approach to changes to tertiary education policy. This meant that what was appropriate for one educational sector should be the same for another. In particular, the government was keen to map tertiary changes along the lines of those being implemented through the Picot proposals (Picot et al 1988).

The Hawke report departed from the Treasury position on university research in that it advocated the inextricability of research and teaching, stating that in universities '... research and teaching are closely interdependent, and most ... teaching is done by people active in advancing knowledge' (Hawke 1988: 13). Ironically, having said this, Hawke then

recommended the splitting of the funding of the two activities. Teaching was to be funded through the bulk grant to universities but research was to be arranged separately. Hawke's suggestion for the reorganisation of university research and scholarship funding was the establishment of an omnipotent Public Scholarship and Research Agency (PSRA) (Hawke 1988). The agency was to disperse funds on a contestable basis to the universities for all types of research including that of postgraduate research students. In line with agency theory, Hawke stated: 'I recommend a distinct system for funding PCET scholarship and research, which intensifies and separates the accountability of those who use public funds for scholarship and research while recognising the contribution they make to our community life' (Hawke 1988: 6). While he had moved back a step from Treasury's position that research should only be carried out by the most 'efficient and effective' providers, Hawke was nevertheless explicitly advancing the broader statement of performativity (Lyotard 1984) as an object in regards to research. In line with Foucault's argument (Foucault in Gordon 1980: 61 - 62) that western society seems to work towards evermore disciplinary forms particularly growing out of the nineteenth century emergence of the human sciences, the appeal of making academic research more accountable in terms of performance would also grow.

The Hawke report constituted a philosophical disjuncture with much thinking within the universities on issues such as the interrelationship of teaching and research (including the effect splitting the two functions would have on the recruitment and retention of quality staff), government control through contestability over institutions which were supposed to discharge a critic and conscience role in society, and strategic restraints on university inquiry (potentially, university research could be at the whim of bureaucrats and politicians who would decide from time to time what research would be deemed strategically important). In addition, the proposal seemed quite impractical. It suggested that the PSRA be '... a small independent body whose members would not be fulltime' (Hawke 1988: 63) and served by a small, full-time secretariat. It was difficult to imagine how such a minor body could have undertaken the large administrative task of overseeing the disbursement of virtually all research monies in the tertiary sector. Hawke inferred that only university research which was 'public good' research should be funded by the PSRA (hence the name) and indicated that any that was not should be funded by the agencies that would directly benefit. 'Public good' carried a strong flavour of strategic intent and echoed the language being associated with government science at the time. This centralised approach to controlling university research was reflected in the role Hawke envisaged for the PSRA:

Each year, the PSRA would receive more detailed reports on the research of particular parts of a university through the review process It would state to the university whether it proposed to continue funding for public good research in that area or whether it considered that the output did not justify such funding. This might be because the research activity was such that it was more appropriately funded by a direct beneficiary ... (Hawke 1988: 63).

Certainly this type of arrangement was at odds with more traditional university ideas of being able to research whatever seemed appropriate depending on talent and opportunity, and where knowledge gaps appeared to be opening up within a disciplinary framework. Moreover, research projects under such a scheme would rely on annual funding rounds which could be terminated at the whim of an administrator. Such short term horizons for research threatened to undermine worthwhile investigations which by definition would be considerably longer than a year. The requirement to apply for money so frequently would also divert scarce resources away from doing research in order to secure the conditions for research (that is writing applications and reports for the funding body).

Hawke indicated that there ought to be an integration of PCET research and government science research over time, thus suggesting that research in the two sectors hardly differed in purpose and nature.

The University of Auckland, in particular, took a dim view of the lack of consultation and secrecy surrounding the Hawke Report (Hawke 1988) and, along with the University of Canterbury, sought legal council and threatened legal action against the Labour government. The latter was narrowly averted by the establishment of a working party of Vice Chancellors and officials set up to consider issues of university autonomy and protection from direct government intervention in view of the almost certain dissolution of the University Grants Committee (Butterworth and Tarling 1994: 168) in February 1989.

Learning for life/Resisting market speak

In the interim, an officials' report to Cabinet had been commissioned based on Hawke and earlier reports. This was released to the public on 20 February 1989 in *Learning for Life 1: Education and Training Beyond the Age of Fifteen* (Goff 1989a). The document was a broad statement of the government's intent vis-à-vis tertiary education. Following in the wake of *Learning for Life 1* (Goff 1989a), government working parties were established and given just eight weeks to report back to the government on the details of implementation. The Post-

school Research and Scholarship Working Party along with the other working parties were established by Deputy Minister of Education, Phil Goff in March 1989.

While policy texts like the Hawke report (Hawke 1988) and *Government Management* (Treasury 1987 a&b) have received considerable critique by education academics in New Zealand (e.g. Butterworth and Tarling 1994, Peters and Marshall 1996), not least because of their strong opposition to the proposals made, scant academic attention has been paid to what might be considered a more minor policy document circulating at the time. The report of the Post-school Research and Scholarship Working Party (PSRWP) is of considerable interest because it offers an alternative view to the stringent neoliberalism of Hawke (1988) and one much more in line with the Watts report (Watts et al 1987) which it frequently referred to. Significantly, the report was highlighted by Steve Maharey as offering useful alternative views of arrangements for university research when the 1998 white paper (Ministry of Education 1998) on tertiary education was published (Maharey 1997). The entire report is devoted to a discussion of research policy in the tertiary education environment and for this reason alone is worth considering more closely. In other policy documents of the period research received relatively minor attention. In the face of serious opposition from the universities it was the spirit of the working party report (PSRWP 1989) that the government finally followed in respect of research.

The Post-school Research and Scholarship Working Party, as with the other working parties, was instructed through its terms of reference not to relitigate government policy as set out in *Learning for Life 1* (Goff 1989a). Rather, the working party was to recommend funding and accountability procedures and mechanisms for PCET research. The terms of reference were located well within the neoliberal discourse of the day (see PSRWP 1989). Number two (of the Terms of Reference) was entitled 'outputs' and was comprised of two parts. The first of these explicitly required the working group to take into account the recommendations of the Science and Technology Advisory Committee (STAC 1988) and the restructuring of New Zealand science and technology when advising on funding procedures and mechanisms for PCET. The second required 'output' was to 'Recommend accountability procedures and mechanisms for monitoring the scholarship and research funded in PCET institutions'. Under section 1.1 entitled 'Problems with the Present Structure' *Learning for Life 1* had identified a '... lack of accountability in many areas of operation, especially in research' (Goff 1989a: 10). The statement constituted a further example of the repeatable materiality of discourse

(Foucault 1969). The idea of new 'performance accountability' apparatuses for academic research had been introduced (albeit tangentially) through *Government Management* (Treasury 1987b), elaborated on through the Hawke report (Hawke 1988), highlighted in a government policy document (Goff 1989a) and now formed a key 'problem' for the government working party to respond to in policy recommendations. This was despite the fact that the Watts report (Watts et al 1987) had reported that New Zealand academics were performing well in research by international standards despite the relatively meagre research funding they received.

The Final Report of the Post-school Research and Scholarship Working Party (PRSWP 1989) was significant in its length (a full sixty eight pages, albeit with some repetition in the form of a summary of recommendations) and despite the limitations dictated in the terms of reference, relative distance from Treasury thinking about universities and research. Students, for example, were referred to as such, not as consumers, and the inextricability of teaching and scholarship (including research) was argued for. However, strong discursive constraints were apparent. These were already well signalled in the 'outputs' section of the Terms of Reference. For example, terms such as 'accountability' 'post-school institutions' (rather than using specific terms for specific institutions), (education as a) 'service', 'equity objectives' were all frequently referred to and repeated statements of other recent policy texts (including the Hawke report and *Government Management*). Nevertheless, the document constituted the last comprehensive consideration of research and scholarship in the tertiary education system prior to the TEAC reports and the development of the Performance Based Research Fund just over a decade later. The text was authoritative in tone and took the opportunity to comment on a wide range of issues concerned with research and scholarship besides its rather narrow 'output' requirements as specified in the 'Terms of Reference'.

The recommendations of the Post School Research and Scholarship Working Party were presented on 8 June 1989, unequivocally stating that '... research and scholarship are an established and essential part of the post-school education system' (PSRWP 1989: 3). They insisted that the majority of research funding should continue to be allocated through the bulk grant to universities, thus diverging considerably from Hawke's (1988) position which was that all research money within post school institutions would be distributed through a single contestable fund managed by a proposed Public Scholarship and Research Agency (PSRA).

By not mentioning the Hawke report (Hawke 1988) and *Government Management* (Treasury 1987), the PRSWP seemed to be defining itself *against* these policy documents. The Working Party (1989) emphasised the inextricable interrelationship between research, scholarship and teaching at degree level and above, and underpinned this with a call for the appropriate funding of scholarship (research was seen as a component of scholarship). The PRSWP, referring back to Watts et al (1987) explained that research in the university sector was relatively under funded and that despite this, New Zealand academics had achieved well in international terms in both research and quality of teaching. The report went to some pains to define and differentiate research and scholarship, stating that research was a subset of scholarship. While scholarship was described more generally as learning and erudition, research was defined as something more specific:

The term “research” is by nature more specific and is part of scholarship. Research is the act of searching (closely, carefully) for or after a specific thing or person. Research is a search or investigation directed to the discovery of some fact by careful consideration or study of a subject; a course of critical or scientific enquiry. It also means to search into, to investigate or study closely (PSRWP 1989: 20).

Unfortunately the report was less helpful when attempting to elaborate the distinction. The writer explained that a philosopher writing a book on Plato would be considered a scholar while a scientist investigating fibre properties for a private company would be considered a researcher. In practice, of course, the philosopher may well be considered a researcher and under certain circumstances the scientist could be considered a scholar. The Working Party did acknowledge that ‘... in practice, the terms research and scholarship are closely linked and associated’ (PSRWP 1989: 21).

The section argued that time for staff to engage in scholarship was crucial for the well being of ‘post school institutions’: ‘Staff who are not themselves in a continual state of learning, who are not maintaining their own level of scholarship which will often include research, will very soon become irrelevant to the learning process in which students are involved’ (PSRWP 1989: 22). Section 5.2.2 alluded to the ‘critical’ function of ‘degree giving’ institutions in democratic societies, including their role in educating citizens rather than ‘producing’ consumer/taxpayers. As noted above, however, the discursive restraints of the era were evident. Traditionally, universities would have been identified as such in a passage like the one that follows but in the new ‘across-the-board’ policy approach they were included in

‘degree-giving institutions’ which, under the new legislation, would include polytechnics and private training establishments (PTEs).

It is, therefore, not only to ensure advanced teaching by those properly equipped to give the tuition but also to sustain the right of serious criticism that scholarship in this general sense is an integral part of degree-giving institutions. It must be seen as part of their primary function interwoven into their teaching activities in a way which cannot be separated. Education at this level means not only imparting knowledge and understanding at a scholarly level but also preparing minds to question, to see alternatives, to weigh up opposing points of view preparing students for ideas, not ideas for students (PSRWP 1989: 22).

And in 5.2.3 the link between this civic function and funding was emphasised.

Only through inclusive funding of a research and scholarship function directly associated with teaching can open access to information, its elucidation and its dissemination be safeguarded (PSRWP 1989: 22).

The democratic role of ‘post-school institutions’ was further discussed in section eight where the PSRWP strongly supported the principle that academic staff be ensured ‘... the freedom within the law to question known knowledge, put forward new ideas and controversial or unpopular opinions as an integral feature of their employment’. The Working Party went on to note that such freedom is a fragile freedom and is in itself a sufficient reason for research funding to remain with individual institutions and not be centrally administered. ‘Social and economic critics are never popular, and can only be defended effectively if their funding is inviolate and their accountability is to scholarship and not to interest groups’ (PSRWP 1989: 41).

The PSRWP recycled the new, neoliberal language of the time, indicating their membership in the (still relatively new) discourse group. While doing this, however, they held their ground in defence of established understandings of university life and scholarship/research. The PSRWP explained that rigorous performance indicators already existed for measuring accountability within the tertiary education sector for scholarship and research, through activities such as curriculum development, publications, and the quality of work with graduate students. This was a response to Hawke’s (1988) claim and an assertion in *Learning for Life: One* (Goff 1989a) that ‘accountability mechanisms’ for university research were inadequate. The Working Party acknowledged that this was also the perception of politicians and

administrators and suggested that further accountability might be achieved through charters, the new review and audit agency, and the new Ministry of Research, Science and Technology which was charged to undertake reviews of the government science sector and could extend this function to include university science. This latter acknowledgement was a significant break with established practices. It would have been unlikely previously for a policy document to suggest that university research might be accountable to bureaucrats in Wellington.

The report suggested that scholarship and research were easily quantified in terms of time and finance and that the activities required 'sufficient funding' if recommendations in *Learning for Life: One* were to materialise:

If scholarship is to be maintained and nurtured it is mandatory to plan for this activity and to set aside sufficient finance for maintaining the teaching and intellectual environment which ensures the excellence of the system called *Learning for Life* (PRSWP 1989: 23).

The Working Party also recommended that the measurement of research outputs was inappropriate if as much attention was not focussed on inputs.

R46 agree that it will be necessary to monitor the inputs to research and scholarship as well as outputs, to ensure that all individuals are treated consistently and fairly (PSRWP 1989: 41 - 40).

In response to Hawke's recommendation that 'PCET institutions should be free to contract for any such research which is consistent with their charters' (Hawke 1988: 62), the PSRWP acknowledged that external research contracting may be a feature of academic scholarship and research but indicated that pursuit of such contracts should not be the primary driver for academics and should occur within clearly understood parameters:

It is also to be expected that scholars will take part in research projects and programmes for outside agencies and, in this event, their accountability will be jointly to those agencies and to their institutions. It is noted in passing that should their essential scholarship be compromised in such activities they must be able to withdraw so that ethical standards and their roles as critics are not compromised. Only a firm base of funded scholarship in their own institutions can ensure this necessary independence (PSRWP 1989: 23).

In discussing social equity in research and scholarship the Working Party noted that because some groups such as Maori, Pacific, low socio-economic status, women and disabled people were under represented in New Zealand universities or at least in particular areas, research and scholarship was concomitantly restricted in terms of ‘... topics researched, research methodology, and the forms of disseminating results’ (PSRWP 1989: 25). The report also observed that this under representation meant that certain groups of people were not having their interests and concerns met through university research. The PSRWP supported UGC moves at the time to encourage greater university enrolments of under represented groups particularly those leading to higher numbers working towards research degrees.

After emphatically and repetitively asserting the inextricability of teaching, scholarship and research and the need for these activities to be adequately resourced through bulk grants (i.e. funding for teaching and research would not be separated), the Working Party moved on to considering contestable funding for PCET scholarship and research activities as requested in the terms of reference.

The Working Party noted the existing and oversubscribed University Grants Committee fund of 4.4 million dollars and recommended the establishment of a much larger post-school research fund which was to serve all ‘post-school institutions’ and be administered independently, ‘thereby distancing the process of decision-making from parochial influences’ (PSRWP 1989: 47). It was advised that the fund be made up of the UGC money and of top slicing 2.5% of the bulk allocation of post-school education. The Post-School Research Fund (as it was referred to in the report) was to be administered by a Board of Management which would oversee three separate funding programmes: arts and humanities, social sciences and science and technology. Each of the programmes was to have its own advisory committee and to be allocated not less than 10% of the available funds in order to ensure a ‘... more equitable distribution of the research funds available to the different academic sectors’ Arts and humanities were specifically mentioned as areas that were in danger of being overlooked unless specific funding was set aside. The Working Party admitted that a contestable system of funding would disadvantage institutions with minimal research activity already in place (polytechnics and colleges of education).

An anticipated feature of the contestable pool identified by the Working Party was that ‘The pool could be rapidly adaptable to timely ideas or changing circumstances, such as: research priorities; social change; accommodation to changes in other funding arrangements’ (PSRWP

1989: 48). Certainly, the notion of priority setting at various levels, including the national level, was going to be a significant feature of the new government science regime, but why the Working Party thought it had to be a feature of university research regime was never made clear. The Working Party appeared to construe priority setting as a ‘natural’ and neutral partner to contestable funding arrangements. The logic seemed to be that scarce funding ought to be spent on ‘appropriate’ research (not a new concept) and also that there should be some way besides usual academic practices to hold scientists/academics accountable (if you do not do the kind of research that we deem to be relevant and ‘useful’ as suggested in our priorities we will not fund you). It was possible that the PRSWP saw no alternative but to advise on contestable arrangements given its terms of reference, yet the enthusiasm for suggesting how the pool might be used to control academic research (as demonstrated in the quote above) suggests the extent to which the Working Party was actually colonised by the neoliberal discourse on research in universities.

Macdonald (1993) explains that priority setting has always been a characteristic of science. However, previously it was implicit rather than explicit and involved a mix of governmental, institutional and individual researcher input. He suggests that the kind of science that gets done changes when priorities are set in a top-down fashion:

... what is new is the increasing trend towards the setting of priorities at the national and institutional levels and the consequential imposition of priorities at the project and bench levels. The main mechanism for this has been the allocation of funds according to the “priorities” determined by governments and their advisers. Increasingly, therefore, both institutional and individual funding for research has been provided subject to the approval of projects rather than, necessarily, the quality of the science or scientists involved (MacDonald 1993: 27).

The question of academic freedom was an obvious concern for those not convinced that any university research should be tightly controlled and monitored by those managing and directing contestability. The report of the Working Group explicitly supported the principle of academic freedom in relation to research, scholarship and teaching and pointed out that academic freedom in the universities was one of the cornerstones ensuring democracy in New Zealand. For example point 8.5 states:

One of the most important freedoms New Zealanders have is the academic freedom currently enjoyed by universities, a responsibility to be extended to

other post-school institutions under the provisions of *Learning for Life*. This is a fragile freedom, and in itself is sufficient reason to ensure that funding for scholarship remains with individual institutions. Social and economic critics are never popular, and can only be defended effectively if their funding is inviolate and their accountability is to scholarship and not to interest groups (PSRWP 1989: 41).

The Working Party, however, did not address the paradox of contestability vis-à-vis academic freedom and its envisaged adaptability to ‘... timely ideas or changing circumstances, such as: research priorities; social change; accommodation to changes in other funding arrangements’ (PSRWP 1989: 48). The Working Party also assumed that continuing to bundle the majority of tertiary research funding with teaching in the bulk grants would ensure the ‘fragile freedom’ of the academic. They did not account for the growing influence of managerialism (Tarling 2005) within the universities and the new ‘degree granting’ institutions, in particular, including the effect this might have on the internal distribution and control of research funding. Perhaps they did not foresee that already under funded institutions, competing for students on the new ‘level playing field’, had too many competing funding needs (new building programmes, the development of ‘international’ student markets) to prioritise research and much needed research development amongst academic staff.

A parallel working party on academic freedom (Academic Freedom Working Party 1989) emphasised the point that a separation of research and scholarship funding at institutional level would have a detrimental effect on both institutional autonomy and on individual academic freedom. It also took a clear line on Hawke’s (1988) policy suggestions that academics might compete for research funds, observing that this would contradict the definition of a university in *Learning for Life I* (Goff 1989a) which required that research and teaching be ‘closely interdependent’ and that teaching be done mostly by those involved in research.

The last section of the PSRWP report (PSRWP 1989) entitled ‘New Arrangements for Government Research’ signalled clearly, as had Hawke (1988), that tertiary education research and government science would increasingly be required to take account of one another in an ever more homogenised policy environment. More specifically, the implication was that tertiary education and universities would need to be cognisant of arrangements in science rather than the other way around. The Working Party stated: ‘Researchers in post-school institutions will inevitably be affected by the nature of these new arrangements (in

science)’ (PSRWP 1989: 61) and ‘Notice will need to be taken of national research priorities as identified by the new Ministry of Research, Science and Technology (MORST)’ (PSRWP 1989: 61). The Working Party advised that the collaboration of post-school contestable funding and a larger national research pool was being considered and warned that if this was to be the case there would have to be special ‘... protection for funds that might be allocated for research in the arts and humanities’ (PSRWP 1989: 61). Further to this, the Working Party warned that if the larger pool became dominated by government science priorities, ‘post school’ research should not be included because research in that sector had ‘a broader function’ (PSRWP 1989: 61).

University research stays (more or less) intact

As Phil Goff (Minister of Education) documented in his introduction to *Learning for Life: Two* (Goff 1989b), the report of the PSRWP and the other working parties were put in the mix with opinions of officials and the somewhat mysterious ‘education evaluators’ (Goff 1989b: 3). By August 1989, decisions had been made and these closely reflected (albeit in a somewhat watered down version) the recommendations of the PSRWP. The research related decisions were that:

- teaching and scholarship are inseparable at post school level;
- research is essential for advanced post-school teaching;
- the funding of scholarship, teaching, and research overheads should be part of the bulk funding allocation to PSET institutions;
- these overheads may include administration, library, and computer costs;
- bulk funding procedures for research and scholarship overheads should be applied consistently across the post-school sector (Goff 1989b: 55).

Further actions included calling for a report on how ‘research and scholarship overheads can be included in bulk funding allocations’ (Goff 1989b: 55), and a decision to establish and operationalise a contestable pool of research funding from 1991 with a proviso that there would be a transitional period for non-university PCET institutions. The pool was to be administered by a Tertiary Research Board (TRB). Officials were supposed to be looking into whether PCET institutions would be able to bid for the soon-to-be-established Public Good

Science Fund. Maori issues, which had been given some attention in the report of the PSRWP were to be further investigated and research and scholarship was to be 'performance monitored' by: The Ministry of Education; the Controller and the Auditor General; the Education Review Office and the National Education Qualifications Authority.

Goff (1989b: 4) noted in his introduction that: 'These policy decisions will almost complete the most comprehensive changes across the whole of education since the introduction of compulsory education in 1877'. Over the following two years the changes were legislatively enshrined through the Education Act of 1989, the Education Amendment Act of 1990 and four further Education Amendment Acts passed by a National government in 1991. Of particular interest to this study is the New Zealand Education Amendment Act of 1990 which defined a university as a place where teaching and research are closely interdependent and most of teaching is done by people who are active in advancing knowledge. The definition instantiated the spirit of the Working Party recommendations which unequivocally constructed research as a key part of university life and work at all levels. Certainly, the definition proved to be a handy catchphrase over the next decade. Without it, a plethora of polytechnics and private providers would have been able to have been redesignated as universities in the interests of expanding the degree-granting 'marketplace'.

In the event, non-university degrees were not very popular to begin with (OECD 1997b). By the mid 1990s the university 'brand' was perceived as the answer to increasing student numbers in non-university degree courses. The international student market was apparently particularly sensitive to the university label. A key argument for university status for Auckland Institute of Technology (AIT) put forward by its CEO Dr John Hinchcliff was the fact that the institute could not maximise its international student market without the 'university' brand (Sell 1999, Minto 1999). Moreover, in the new commercial environment tertiary institutions were always on the look out for new ways to make money and degree level EFTS (Equivalent Full Time Student) funding was marginally higher than sub-degree funding. Consequently, it literally paid to be teaching degrees as opposed to sub-degree courses. The difficulty was that degree teaching was supposed to be done by research-active staff. The requirement for degree level teaching to be interdependent with research meant that AIT's bid for university status took four years and was turned down in the first instance because the institution could not satisfy the research requirement (among other things). Other large polytechnics never did reach the research threshold but changed their names to give the

impression that they were a university. Carrington Polytechnic became Unitec, Wairarapa Polytechnic became Universal College of Learning, or UCOL for short, and prior to getting university status, ATI changed its name to AIT in order to sound more like overseas universities with 'institute' in their name like MIT and RMIT.

The legislative requirement for a teaching/research nexus at degree level and above was to be relitigated during the National coalition government's 1997-98 tertiary review as well as during the TEAC review of tertiary education following the 1999 election.

In the Education Amendment Act of 1990 the recommendations from the Learning for Life Working Party on Academic Freedom meant that another key phrase protected the academic culture of the universities. It was the legislative requirement that universities discharge the role of critic and conscience of society - a role that distinguished the universities in the New Zealand legislation from other 'tertiary providers'. Difficulties began when academics began to act as critic of the government for the conscience of the university, 'protecting as they saw it the international standing and credibility of New Zealand's tertiary sector' (Camino 1997). Certainly over the 1990s New Zealand academics had marshalled considerable theoretical and historical resources to write back to New Zealand governments with sophisticated and convincing arguments that resisted any accusations of 'capture' (see for example Peters and Marshall 1996; Peters and Roberts 1999; Codd 1993). Key government figures were aware of this work, notably Steve Maharey, who became Associate Minister of Tertiary Education when a Labour-led coalition was elected in 1999.

Butterworth and Tarling (1994) note that because of the willingness of the universities to involve themselves in the policy-making process, and in particular their demonstrated readiness to legally challenge the government, they escaped the worst excesses of neoliberalism at the time, arguably fairing better than the Australian universities under the Dawkins reforms at the beginning of the 1990s. They write:

To an extent they [the universities] had beaten off the attempt to impose a full-blown corporate structure with one-line delegations to individuals. The division ... in Australia ... between the [administrators] and the academics who teach and research had not manifested itself in New Zealand to anything like the same extent. While staff: student ratios continued to deteriorate, the success in retaining a research component as integral within the bulk funding formula enabled the universities to make provision to

attract and retain experienced academics (Butterworth and Tarling 1994: 245)

But as they go on to point out, the 1990 legislation, rather than being seen as a compromise, could be viewed as a stage in a continuing struggle. Importantly, the new legislation, while allowing for the teaching of degrees by tertiary institutions other than universities, noted that such teaching had to be carried out by those engaged in research. This legislative requirement continued to be a promise rather than a reality throughout the 1990s, particularly in the polytechnics, colleges of education and private training establishments. However the legislation certainly helped to hold the line on expectations of staff and educational institutions and ensure that some funding was allocated to research.

In the event, the TRB was never established and nor was the contestable PCET research fund. Palmer (1994) writes that a key reason for backing off from this development was the energy expended on the changes to the organisation of the national science system and a concomitant intention to integrate the universities into the system (Palmer 1994). Butterworth and Tarling (1994: 235) observe:

The Hawke formula had been disposed of. But the government's decision to move the Department of Scientific and Industrial Research (DSIR) on to a "contestable" funding regime opened up another can of worms. If divisions of the DSIR were to compete for pooled funds, should they not have outside competitors? Given the low level of private sector investment in research and development, whence could competition be drummed up other than from the universities? In which case, university and polytechnic funds would have to be transferred to what became the Public Good Science Fund (PGSF). Funding would migrate permanently from Vote: Education to Vote: Science and university research would become more narrowly focussed on what Cabinet from time to time decided should be financed.

Conclusion

This chapter has focussed on an analysis of four key tertiary education policy documents produced over a two year period (1987-1989), when arguably, New Zealand's neoliberal 'revolution' was in full swing and still new enough to hold promise for many (certainly not all). For the universities it threatened to change fundamentally the way they operated, and some policy advice (for example that offered in *Government Management* (1987b)), if implemented, would have undermined the capacity for universities to offer an internationally recognised university level education. The documents, in unison and individually, carried

considerable discursive force, and their various versions of academic research policy have continued to recirculate since, even if they did not have immediate effect. For example, the PBRF looks very much like one response to the suggestions mooted in the Hawke Report (1988) and *Learning for Life* documents that academic research and researchers need to be accountable.

There was considerable intertextuality between the documents even though this was not always referenced, for example, Hawke (1988) referred to the entrepot functions of the university in the same way that *Government Management* had even though this economic lexicon had never before been used to describe university research in New Zealand. Moreover the PSRWP, like Hawke (1988), insisted that research policy in tertiary education would need to take account of changes in the national science system and also suggested a more modest version of Hawke's contestable research fund for tertiary level research.

On a research policy cline ranging from most neoliberal to least, research policy as explained in *Government Management* (Treasury 1987) would have sat at the bottom (most neoliberal), the Hawke report (Hawke 1988) at the next level, the Watts report (Watts et al 1987) next and the report of the PSRWP (1989) sitting along side it, some distance from Hawke. Both these latter documents nevertheless signalled their discursive 'membership' in the neoliberal policy discourse of the day by the use of recognisable neoliberal statements (e.g. contestability, outputs, user pays) and discursive linkages (highlighting the role of university teaching and research for economic development). It may well have been necessary for both policy groups (Watts et al 1987 and PSRWP 1989) to play the neoliberal language game of the day in order to have their policy advice considered at all. These shifts in the language stakes indicated that changes to the nature of university institutions themselves were underway (Lyotard 1984).

As noted previously, the less 'hawkish' view prevailed in the early 1990s and the policy advice of the PSRWP on the inextricability of teaching, scholarship and research remained in place albeit with a pending intention to establish a contestable research fund for universities. The next chapter describes and analyses the changes that took place in the national science system. Chapter six also examines the arrangements that were made for university research to compete in a contestable pool with national science.

Chapter Six

Restructuring science

Scientific research is all too often determined by the financial role of governments and businesses today. While the assistance has some value, it can be negative in the sense that the research will tend to be always applied to new technological developments rather than to more pure research that could make vast changes in many conceptions of the world (Schultz 1998: 15).

Introduction

This chapter outlines and critiques the restructuring of the New Zealand national science sector which began under the Labour government in the late 1980s and was completed with the establishment of the Crown Research Institutes (CRIs) in 1992 under the National government. The science sector was fundamentally and systemically rearranged as a result of the neoliberal policy blueprint inaugurated in New Zealand from 1984, which demanded a split of policy, funding and ‘delivery’ functions in many arenas of government funded activity. In a small white settler country whose institutions had a short enough history, the DSIR (Department of Scientific and Industrial Research), which had been established in 1926, and its associated institutions, were broken up and reconstituted from scratch. The new institutional forms can be analysed in Foucauldian terms (see for example Foucault 1979b) as an abrupt emergence of new forms of science governance. Science was to be ‘managed’ by career bureaucrats (who may or may not have been scientists formerly) with more allegiance to government requirements than to the pursuit of science per se. A strong apparatus of surveillance (Foucault in Gordon 1980) was installed in the form of contestable systems of funding requiring close managerial involvement and extensive peer review for every piece of science that was to be funded. Government would be better able to control the forms of science being produced through setting the parameters for contestable funding. Science ‘proposals’ would only be funded if they met high level government priorities as well as the requirements for the individual ‘output classes’ of the newly established PGSF (Public Good Science Fund). This was in contrast to previous arrangements in the DSIR, for example, where what type of science got done and by whom was governed to a large extent by scientists themselves.

Strong competition for funding would require the construction of new kinds of subjectivities for scientists. Hayek (1979) had theorised the establishment of conditions which would create new kinds of subjects, in particular entrepreneurial subjects. The science restructuring sought to do exactly this. Scientists would now have to spend a not inconsiderable amount of time (one estimate put the time at four months in every twelve (Ansley 1999)) securing the conditions for research through increasingly strong competition for science funding (especially from 1994 when the universities had full access to the PGSF (Public Good Science Fund)). Being a competitive entrepreneur (securing the contracts, getting the business) would become more important than being a good scientist. This was inevitable under the new arrangements because the science could no longer be done if the contracts were not secured. What Hayek (1979) had not been able to predict was that several forms of identity (being a scientist and being an entrepreneur) were not necessarily co-located in the same person. Managers would have to be appointed to the newly established science organisations (the 2004 appointment of Dr Andrew West to AgResearch is a recent example of the phenomenon (Collins 2004b)). Enculturating scientists into the discourses of entrepreneurs would take time and might never be fully accomplished (Gee 1996; Ansley 1999; Collins 2004a). Indeed the science changes were eventually unpalatable to many and the 1990s saw an exodus of New Zealand scientists to other countries or other fields of work (Ansley 1999).

Lyotard's (1984) *The Postmodern Condition* was written at the beginning of the Thatcher and Reagan eras as a direct critique of the growing inextricability of science and technology under a general rubric of new marketised policies. Lyotard's concomitant theory of the permeation of the performativity narrative into all spheres of social life, and the related commodification of knowledge, including the effects this has on the traditional mission of the university and indeed 'advanced societies', more generally, serves to map the journey in the west at the turn of the twenty first century. As Lyotard (1984) notes, the purpose is schematic, aimed at providing generative theoretical resources and an interrogative history of our times rather than a 'true' history or analysis.

Lyotard explains that the growing computerisation of knowledge brings a general logic of direct utilisation to knowledge. Basic research, once valued for its own sake, comes under suspicion as having no direct, immediately identifiable 'value'. From this point of view it is therefore also inefficient; there is no direct 'output' measurable on the basis of the 'inputs'.

Basic research needs to be augmented with a time-to-market estimation. As John Ziman (1994: 72) relates: ‘... the tang of potential utility can be detected further and further upstream towards the headwaters of scientific discovery’. The metanarrative of performativity begins to rule government science laboratories as scientists are required to justify time spent on projects (time is money) and ensure that for all inputs (funding, later reformulated as investment) there are requisite outputs, preferably exceeding the cost of input in order to generate profit for the next project. In order to manage the input/output equation as efficiently as possible, thereby maximising profits, management structures of government science and large university laboratories begin to mimic corporate management structures (Lyotard 1984).

Prior to the worsening economic climate associated with the ‘oil shocks’ of the mid 1970s, science activity (at least in dominant economies like the United States, Japan and Great Britain) had been in a state of rapid expansion and any decisions about science organisation were strongly science driven. ‘Technical criteria of merit often ranked above prime cost or economic benefit. Budgets for basic research were allowed to grow to meet the rapidly rising costs of instrumental sophistication’ (Ziman 1994: 83). This attitude (referred to as Science-push) changed radically in the United Kingdom and elsewhere, as the power of market competition was relied upon to deliver more immediate and (supposedly) more ‘useful’ results in science. The new idea was that state funded science would eventually be phased out in favour of private funding, as industry and business increasingly understood just how beneficial S&T (science and technology) was to their own maximisation of performance and profit. As an interim measure and with a growing belief that science and technological advances should be directly concerned with wealth creation, market-like conditions were created. These allowed for greater ‘steerage’ by government through funding or ‘purchasing’ institutions and were expected to inject greater efficiency into systems that had erstwhile been considered more interested in the pursuit of truth (good science) than the pursuit of productivity measured through science ‘products’, their profits and science ‘utility’. It was expected that productivity would be stimulated through the competition inherent in contestable mechanisms. Ziman (1994: 74) writes of the United Kingdom ‘... a number of research council and government establishments doing quasi-academic research in agriculture, public health, environment protection etc, have been privatized, or forced to obtain the bulk of their funds through research contracts with industrial or governmental “customers”. The trend was paralleled in many other countries, although some, like Germany, retained a traditional system.’

Disaggregating national science

Even more enthusiastically than the UK, New Zealand developed its own idiosyncratic answer to marketised science. While the new-found political muscle of the universities had enabled them to escape the excesses of the Labour government restructuring at the close of the 1980s, the DSIR and its related agencies (MAF Technology: a 1987 incarnation of the Ministry of Agriculture and Fisheries, the Forest Research Institute, and the Meteorological Service) were not so able to resist institutional restructuring. Butterworth and Tarling (1994: 236) observe: ‘Government policy on contestability in DSIR had emerged only after one of those engagements familiar in Wellington between Treasury Ministers and their current target Minister’.

The long era of state patronage over science had been questioned soon after the 1984 Labour government came to power. However, by comparison with the perceived importance and high profile of tertiary education, science had not been such a focus for the government to begin with. Nevertheless, MORST historian, Clive Palmer (1994), documents a turbulent five years of government reviews, reports, as well as dissatisfaction inside the science community, leading up to the major restructuring of science institutions from 1989. A conference on S&T was held in mid 1985 soon after Labour came to government. Discussion focussed on the importance of S&T to economic development, as well as New Zealand’s perennial problem of needing to encourage more private sector support for science and research (Palmer 1994). In 1986, a Ministerial Working Party known as the Beattie Committee was established to review RS&T (research, science and technology) policy. The committee highlighted the importance of S&T to economic development. It also recommended tax reform to encourage private investment in research and development and the application of public management-like principles whereby the policy, contestable funding allocation and operational arms of S&T would be institutionally separated. While many of the recommendations from the committee were subsequently addressed, Palmer (1994: 2) notes that; ‘... [1986] was not the right time for such heady stuff, as government was developing its market driven reform package and science was not high profile material’.

However, a one-size-fits-all approach to policy was to wash over and radically transform the science system by the late 1980s. The Science and Technology Advisory Committee (STAC) was established in 1987 for a three year term to reconsider the Beattie recommendations and lead changes in science. The committee commissioned an independent review, rather than

relying on advice from DSIR or Treasury officials, and as a result of this issued the influential publication *Science and Technology Review – A New Deal* in November 1988 (STAC 1988).

The title ‘*A New Deal*’ conjures up images of a Rooseveltian era of democratised science policy. Indeed, Fuller (2000) advocates a re-examination of pre-war New Deal policies as a way of thinking forward differently about western science. He is interested in imagining how science might have developed without the impact of Hiroshima and the Cold War. Roosevelt’s New Deal proposals considered the redistribution of research money from elite to poorer universities, with an underlying principle that ‘... science was a suitable site for redistributionist policies precisely because its modes of enquiry ... could be known and done by anyone. Any differences in scientific performance ... could be attributed to differences in the quality of the training and research facilities ... not the quality of the people staffing them’ (Fuller 2000: 120), a proposition that Fuller himself strongly supports. It was not clear how the American New Deal related in any meaningful way to the proposed New Zealand science system, but the appropriation of familiar political terms to describe entirely new bureaucratic arrangements was well entrenched in neoliberal discursive practices by the late 1980s (viz: equity, accountability, equality).

If science/research was the way forward to a rosier economic future, a government funded science system was needed in a country where private interests were not sufficiently able or interested in supporting the level of science activity the country needed. Both government and private funding for science, research and development had decreased over the 1980s. However, if science had the potential to lift economic growth and competitiveness there was a strong argument for government funding to increase. If funding was to increase under a government committed to privatisation in almost all other areas there were two things that could be done to try and ensure policy consistency and establish the required environment:

1. New commercialised arrangements could *appear* to be more privatised, through requirements for profits and more corporatised management structures.
2. Marketised systems with their facility for steering from above through mechanisms such as priority setting, performance measurement through tightly set output criteria and complex evaluation procedures (see for example, Peters 1991) were one way to gain and maintain tight control while providing the illusion of autonomy and freedom.

Like the Beattie Report (Beattie 1986), the STAC document (STAC 1988) signalled that New Zealand's government funded science had to change, and, despite the title of the report, advocated the establishment of a marketised government science system designed to promote higher performance in terms of 'outputs' (more, and more 'relevant' science), management efficiency and market knowledge. The 'Terms of Reference' were as follows:

- to identify the *economic and social* parameters on which government R&D investment levels should be based;
- to determine the adequacy of existing mechanisms with which government undertakes R&D with respect to *return on assets and other financial and economic indicators of efficiency*;
- to recommend *options for change in organisation, structure or funding* of R&D which will improve the *efficiency* of government funded R&D, including the placement of policy advice and operational responsibilities;
- to determine the *optimum ministerial responsibilities and reporting mechanisms* to promote *efficiency* in government science;
- to recommend the most *efficient* means to improve business and commercial sector involvement in R&D activities and national S&T policy formation (my emphases) (Palmer 1994: 25).

The goal was to create a government-funded market for a commercialised science operation. Ironically, marketised devolution in science coincided as it did in many other policy contexts with tighter government control and say in what should be happening. In New Zealand, it signalled a relatively new and growing interest by the state in science that would only increase: '... the significance of the rise of science politics/policy is that knowledge-making has been collectivized in the political sense – i.e. has come under the grand collective of the nation state' (Ziman 1994: 94).

In the STAC *Terms of Reference* (see Palmer 1994) the growing spectre of government control at a distance and government 'ownership' is clearly signalled. For example *return on assets* appears to refer to government (as opposed to public) assets. Moreover, in line with Lyotard's (1984) analysis of scientific knowledge and its underpinning metanarrative of

performativity, the word 'efficiency' or its inflections appears in every bullet point except the first. A feature of the first bullet point is the placement of 'economic' in initial position of the coordinated pair *economic and social*. This hierarchy of significance (Foucault 1991; Fairclough 2000) has rarely been inverted in the intervening years in science and tertiary education policy documents (see for example MORST 1998; Ministry of Commerce 1999; TEAC 2000; 2001a; 2001b; 2001c and Ministry of Education 2002a), indicating a relatively stable discursive formation in regards to successive governments' views of the *raison d'être* of research.

By the late 1980s the support in New Zealand for a science policy aimed at restructuring the science system and improving the country's economic advantage through science was clearly bi-partisan. The contribution of Simon Upton to the National party manifesto for the 1987 election was a coherent science and technology strategy entitled *A New Strategy for Science and Technology: The Way Ahead 1987* (National Party 1987). Crucially, and ironically, Upton's paper '... acknowledged that it was government's responsibility to identify and fund long term strategic science' (Palmer 1994). At a time when many other government funded services were under threat of complete privatisation and others had already been sold off, this was a significant rupture in the neoliberal language game (Foucault 1989).

The apparent inconsistency in the privatisation and marketisation theories of Labour and National vis-à-vis the reforms of the science sector was explained by one official (see Peters 1994) as 'market failure'. This meant that the private sector was judged unlikely to be able to generate the kind of science the country required. The government was therefore required to 'intervene'. For example, in an explanation of why the Crown Research Institutes had not been established on a strictly commercial basis Duncan and Bollard (1992: 167 in Peters 1994: 333) write:

... the Crown Research Institutes structure implies a compromise between a commercial structure ... and a less commercial structure This potential inconsistency is an attempt to meet the need to organise these large scale science activities more efficiently, while at the same time recognising that public good research has long-term objectives and cannot be run successfully in a narrow commercial way.

Michael Peters (1994) made the observation that it was a pity that the same consideration had not been extended to other sectors like health and education which were in line for substantial

cost cutting exercises and being moved as quickly as possible towards privatised structures and practices.

MORST and FORST

On 11 April 1989, STAC's recommendations, with support from the business community and both major government parties, were broadly implemented. The changes resulted in a new cabinet portfolio of Research, Science and Technology; and a Ministry for Research, Science and Technology (MORST) charged with policy advice and executive support for the Minister. In 1990 the Foundation Act created a Foundation for Research, Science and Technology (FORST) as a statutory crown agency to 'purchase' science and technology through a major contestable fund named the Public Good Research Fund (PGSF) established through cabinet minutes. The fund would invest in so called 'public good' science outputs which initially were classified into forty 'output' classes. STAC also recommended that the universities expand their access to research funds by participating in the national science system and transferring,

... a proportion of the university block grant [a 10 percent level was suggested], including the UGC research grant, to the contestable research fund, with the universities and polytechnics being eligible to compete for funds on the same basis as any other research institution. This was to become the basis of the negotiations for entry of the tertiary sector to the new science regime (Palmer 1994: 29).

Unlike the government, STAC considered the universities to be under funded by international standards yet with considerable untapped research capacity. They put forward the view that the two research sectors (science and education) performed the same task (research) and should be integrated. This would mean the separation of the funding of teaching and research in the universities along the lines of those suggested in the Hawke report (1988) of the same year. However, the proposition of separating teaching and research met 'considerable public opposition' (Palmer 1994: 29). Consequently, a modified version of the STAC recommendations was implemented when the universities gained access to the national science fund in 1992 with a transfer of \$10.66 million from the disbanded UGC to the PGSF.

These new science arrangements in New Zealand constituted a strong form of neoliberal institutional reorganisation. Firstly, longstanding science institutions like the DSIR were completely restructured along organisational lines which reflected public choice theory,

agency theory and theoretical notions of capture. Secondly, in expanding the market of potential researchers to the universities as well as private scientists/researchers, FORST would have greater choice between researchers when deciding who would ‘win’ research contracts. Thirdly, researchers would supposedly be pushed to produce higher quality and quantitatively more research because of the competitive structure for gaining funding, thus increasing their performativity. Competitive bidding structures would also lead to researchers being more readily ‘accountable’ as they would mostly be funded on the ‘merit’ of their proposals and then subsequently on their track record for delivering results (or outputs). In other words contestability provided for a high level of surveillance (Foucault in Gordon 1980) over the performance of career scientists that had not been afforded to the government through traditional institutional structures.

Scientists once considered professionals capable of driving research and managing research institutions as well as giving policy advice would no longer be able to influence funding decisions or policy (except when invited to peer review proposals). Rather, they would be seen as agents contracted to FORST to deliver predetermined ‘research outputs’.

Significantly, and in line with Fuller’s (2000) observations that science rarely comes under the scrutiny of the voting public, the changes in New Zealand’s science system never became a focus of electioneering in the late 1980s and in that sense were not specifically ‘voted for’ by the public. The close analysis of a text in chapter ten demonstrates the lengths interested parties will go to when public opinion threatens to intervene in their scientific (and extensive financial and political) interests.

Lexical reformulations

With the establishment of the Ministry and Foundation of Research Science and Technology two significant discursive shifts took place. Firstly, both organisations and their minister were given the new title *Research, Science and Technology*. Previously the sector had referred to itself and had been referred to as Science and Technology (S&T). For example, the Science and Technology Advisory Committee’s (STAC) influential report (1988) had been entitled *Science and Technology Review: A New Deal 1988*. Research and development, or the more familiar acronym R&D had been used predominantly to describe the operational side of the sector. That is, the field was S&T and the activity was R&D (see for example the way these terms are used in Palmer (1994)). Despite attempts at a definition of research by the PSRWP

(1989), the word remained sufficiently non-referential to enable a host of activities to be drawn together under its umbrella, well beyond science and technology. This shift to include *Research* in the name of the institutional clusters might be seen as a new discursive emergence (Foucault 1979b). The performative effect (Lyotard 1984) of adding the word ‘research’ in initial position to the new institutions, paved the way for all university research (not just scientific research) in some shape or form to be included in the range of responsibilities discharged by the Ministry of Research Science and Technology. This possibility was hinted at in the Hawke report (Hawke 1988) as well as in the report of the PSRWP (1989).

Another shift over the period was the way government ‘funding’ of national science agencies was reformulated into ‘investment’. *Invest* means ‘to lay out (money or capital in an enterprise, especially by purchasing shares) with the expectation of profit’ (Collins English Dictionary 2000: 808). In the late 1980s and early 1990s the word may still have had some mid-1980s stock market glamour adhering to it despite the 1987 stock market crash in which many New Zealanders lost money through investments in shares. Michael Peters (1997b) informed by Lyotard (1984) writes that in fact such a shift is logical once science falls under the technological criterion of performativity. Progress in knowledge and the discovery of ‘truths’ ‘... becomes subordinated to investment in technology’ (Peters 1997b: 31). This becomes ‘a mutually self reinforcing dynamic of science and technology, where rates of investment are tied to applied solutions’ (Peters 1997c: 231). The question changes from was the research good, to was it good value? This requirement for performativity in research actually shifts what counts as ‘correct’ or true knowledge. This is because the more proof one can establish (higher profits buy the ability to do more science) the more correct one can be. Lyotard says:

... the fact remains that since performativity increases the ability to produce proof, it also increases the ability to be right; the technical criterion, introduced on a massive scale into scientific knowledge, cannot fail to influence the truth criterion (Lyotard 1984: 46).

Funding, although it can be used as a synonym for investment (see, for example, Collins English Dictionary 2000: 620) is not so focussed on outputs nor an expectation of profit. Rather, funding accents process, the idea of what will be done rather than a final product. *Funding* also carries an idea of responsibility (to fund) whereas an investment carries a greater adherence to ‘choice’; one chooses to invest or not, it has a greater discretionary

element attached to it. Certainly, the statement investment emphasizes the expected impact of science on economic productivity (later this would be true for tertiary education as well). This and other shifts in discursive practices helped to shape an understanding of science and research as a corporate, privatised undertaking as opposed to an activity that was being carried out in the collective interest of New Zealanders.

Public versus private good

Given that the key, publicly announced motivation behind the science restructuring was to increase economic performance across the country (see, for example Upton 1991), the name of New Zealand's largest science fund, the Public Good Science Fund, may have appeared somewhat incongruous. However, the notion of public good was a well rehearsed term in neoliberal theory and was used to explain the (limited) realm of non-market production. Through Samuelson (1954), Marginson (1997: 29) explains that public goods had two characteristics:

1. '... consumption by one person does not harm another (non-rivalry) ...'
2. 'non-users could not be excluded from the benefits of consumption (non-excludability'

In fact, as science became increasingly privatised, output and product focussed, and competitive over the 1990s, both conditions applied less and less even to 'public good science.' Access to knowledge by one party certainly could damage potential profits by another. And, in a strong 'user-pays' environment, non-users could be potentially excluded from the benefits of consumption if they did not have the means to pay for that consumption. Marginson (1997) points out that the distinction between private and public goods in the public discourse inferred that all goods that were not 'public goods' were considered 'private' goods and could be produced by the market. 'This implied that the productive role of the public sector was confined to public goods. Non-market production was the residual, the market tended to be the universal' (Marginson 1997: 29).

Economic Management (Treasury 1984) clearly took just such a restricted position, indicating that it might be in the interests of society to ensure the provision of public goods only when it was not in the interest of any individual or voluntary group of individuals to provide such goods because the benefit would not be of a nature to repay the expense to the individual. As

noted previously, *Economic Management* deliberated over whether education was a private good or public good (Treasury 1984). In *Government Management* the debate had been settled, education was a private good (Treasury 1997).

There was a strong expectation on the part of research policy developers in the late 1980s and early 1990s that the private sector would step in, recognise where their economic interests lay and fund research that was appropriate to their businesses. The Hawke report (1988), for example, stated that the PSRA should only fund ‘public good’ research in ‘PCET institutions’. Anything other than this should be funded by the direct beneficiaries of the research: ‘Both private and public agencies should be encouraged to invest in research appropriate to their activities, and PCET institutions should be free to contract for any such research which is consistent with their charters’ (Hawke 1988: 62). The Science and Technology Expert Panel (STEP 1992: 2) while reviewing science priorities for PGSF, recommended: ‘The Government should raise its investment in science and should especially encourage the private sector to increase its own investment’.

Within the science community there was considerable soul searching over what constituted ‘public good’. The term could be mobilised to justify ongoing ‘basic research’ as it was clear that this was not going to be funded by the private sector. However, the first key outcome from the PGSF was to support:

Enhanced economic wellbeing of New Zealand through economic growth, adding value, diversification, increased efficiency and innovation in production, processing and service industries (Strategic Consultative Group on Research 1994: 1).

It was difficult to see how a required focus on basic research *and* the stated obligation to make a direct contribution to ‘economic growth’ were going to be possible, given that a direct contribution to economic growth would inevitably entail close to market (heavily applied, ‘appropriable’) research. The paradoxical situation was captured in the statement below which seemed to place a bet each way and offer little in the way of guidance to researchers or peer reviewers:

The PGSF is not intended to subsidise research which creates clear and appropriable benefits for a private sector investor. Neither should the PGSF displace private sector investment, i.e. fund projects which the private sector would have otherwise funded by itself. However ... the fact that there are

private sector benefits should not exclude PGSF funding. PGSF funding should be available for integrated programmes which have both appropriable and non appropriable elements (Strategic Consultative Group on Research 1994: 16).

The initial rounds of the PGSF in 1990/1991 and 1991/1992 highlighted a number of problems with the new contestable arrangements. An independent review of the allocation of PGSF funds for 1991/1992 was commissioned under urgency by Simon Upton, the newly elected National Party Minister of Research, Science and Technology. *The Report of the Science Funding Review Panel* (Science Funding Review Panel 1991) was the outcome of that review and is worth considering in more detail. It is especially interesting given the way it attempts to grapple with a restructured science system in disarray, making recommendations to improve the system yet still keeping well within the new policy discourses of efficiency, inputs and outputs, public choice theory and agency theory. In doing this it continues an ongoing productivity of particular ways of speaking, writing and doing research.

The independent panel consisted of Professor Donald McGregor (Chairperson, (Assistant Vice Chancellor, University of Otago), Dr John Butcher (Director, Wood Technology Division, Forest Research Institute, Rotorua) and Dr Douglas Wright (Director, Meat Industry Research Institute of New Zealand (Inc)). The report documented that all state 'providers' of science, representatives from MORST, FORST, Treasury and the State Services Commission were consulted. The author noted, however, 'The Review Panel recognises that few 'private' providers were consulted' (Science Funding Review Panel 1991:5). The statement was defensive in the sense that public choice theory dictated that as many competitors as possible should be included in contestable systems, including those from the private sector. The private sector in New Zealand had acquired a kind of moral certitude. This was the 'real' as opposed to 'government-created' marketplace where individuals were standing and falling on the merits or otherwise of their 'products' and attraction to consumers. The existence of some private science 'providers' also offered a model of privatised science which the government was attempting to move closer to itself, initially in the form of the Crown Research Institutes (CRIs). The fact that some of these individuals or 'private providers' were engaged in the 'business' of winning government funding rather than succeeding through authentic private sector dealings (i.e. undertaking contract research for industry) was overlooked. This very positive attitude towards private 'providers' is evident in the following statement:

Private bidders may be regarded as true new science bidders, and although the level of funding is still comparatively small (\$2.9 million, or about 1% of the total pool) they increased their market share by 90% (Science Funding Review Panel 1991: 21).

The public/private dichotomy was further reflected on by the review panel as it deliberated over what research constituted public good and could therefore be funded through PGSF and what was ‘appropriable and should be left to private funders’. It was emphasised that strict adherence to narrow definitions of public good (interpreted as public good equalling the funding of basic research) was not exactly what was required. The panel (Science Funding Review Panel 1991) indicated that the Foundation and the advisory committees were taking their definition of public good too literally:

A further impact of the interpretation of the Public Good definition appeared to be that some research likely to be of benefit to New Zealand had its quality and relevance ratings overridden by judgements of appropriability (i.e. where those benefiting directly were considered to be able to pay for the research). The Review Panel accepts the complexities of the issue, but notes that the Foundation is essentially managing a \$260 million investment portfolio and purchasing science Outputs to contribute to Government Outcomes. *Investment decisions constrained by strict adherence to one interpretation of Public Good may well not provide the full potential benefits that research and development can make to New Zealand’s economic and social goals* (Science Funding Review Panel 1991: 20).

The advisory committees which had been convened to deliberate over the research bids also attracted criticism from the panel. Comprised of mainly university academics, they were held responsible for the apparently tight interpretation of ‘public good’ in favour of more basic as opposed to applied science. Bidders complained that the academic opinions appeared to have held more sway than the opinions of referees nominated in the funding applications (Science Funding Review Panel 1991).

In addition, the panel chastised the Foundation for not engaging in dialogue with its ‘providers’ during the assessment period, relying instead on the judgements of the advisory committees. This was considered to be a mistake and something that needed to be rectified in future rounds. The panel did not however go so far as to blame the institutional restructuring itself. Instead it recommended that the individuals caught up in the process needed to make more effort to communicate effectively. Indeed the nature of the institutional unbundling was restated and reaffirmed:

Science reform in New Zealand has been based on the principle of separation of three functions:

‘The provision of Science advice to Government.’

‘The allocation of funding to research programmes and projects.’

‘The conduct of research.’

Clearly there must be dialogue and consultation between the ‘advisers’ and the “funders”, and the “providers” for this process to be judged successful. The process is new, and inevitably it will present initial problems. It can be anticipated that, with experience and goodwill, a productive relationship will develop amongst those individuals and organisations involved in the decision making and science delivery processes (Science Funding Review Panel 1991: 10).

It cannot have been too surprising that institutionally disaggregating policy advice, funding and ‘production’ (the doing of science) would result in less communication between the sectors and any communication would be potentially harder to achieve and maintain.

Another problem identified in the report was the pressure the Foundation came under in the second round in having to distribute 100% of the \$260 million PGSF funding. The new and relatively small organisation (only 15 staff members in total) had expected to administer a much smaller proportion (up to 50% of total funding) and had only been resourced for this lesser amount of administration. Administering the entire fund put the system (and staff) under considerable pressure.

The panel also noted that ‘bidders’ had complained that the transaction costs of preparing applications were high, with 100 person years being quoted as the cost of the combined DSIR and MAFTEch applications! This presumably seemed all the more galling given a perception that relatively little time had been devoted to reviewing each application. The suggestion was that, ‘... the wide variance between time for bid preparation and time for bid assessment ... has been variously estimated between 100:1 and 50:1’ (Science Funding Review Panel 1991: 25). Science providers/bidders, for their part, were also reprimanded for overbidding by up to 181%. This was despite the acknowledgement that overbidding was an expected feature of contestable systems. For example, public choice theory dictated that the funder needed to have sufficient choice available otherwise there was no point in a contestable system; winners and losers were an essential feature of the new system.

Outputs and classifications for science

One section of the report was entitled ‘Output classification’ (Science Funding Review Panel 1991: 27). It noted that the concept of output classes had arisen out of the requirements of the Public Finance Act 1989 and its stipulation of clear accountability lines within public institutions (agency theory). The idea was that if one could stipulate what the output was, one could also hold the relevant public agency (FORST in this case) accountable for that output. In turn FORST would be able to hold its contractors (science ‘providers’) accountable for prespecified ‘outputs’. Also, categorised outputs would supposedly enable easier establishment of priorities for the funding of research and development. In the event, this was not the case. Priority setting immediately became an area of major contention for the PGSF. Priorities had expanded from 19 output categories in the 1990/91 round to 40 in the 1991/92 round, raising issues of how forward planning would be achieved. Science ‘providers’ and the Foundation needed to plan years ahead rather than on the basis of an annually changing set of priorities. Short funding time frames and unpredictable priority areas, combined with contestability, threatened to and in some areas did wreak havoc on science capacity. As the panel itself noted:

A contestable system presupposes a mobile reserve pool of scientists and technologists with a diverse range of skills, expertise, and experience. This is inherently unlikely given the marketability of graduates and the opportunity costs to scientists of gambling on the possibility of a job emerging from the uncertainties of a bidding round (Science Funding Review Panel 1991: 31)

Indeed, a recent newspaper article (Collins 2004a: A7) cited an open letter to Pete Hodgson, Minister of Research Science and Technology, by some of New Zealand’s most eminent scientists, blaming the 1990s restructuring of science institutions for a loss of researchers to overseas institutions. The main reason for this was the lack of stable career paths in a contestable funding environment. One Landcare senior soil scientist, Craig Ross, is quoted as saying how optimistic he was when the Crown Research Institutes were established, but, he says, ‘... it’s like a lot of things in New Zealand. The free market, competitive model has had all sorts of unforeseen consequences, a lot of which are pretty adverse. The key one is the standing of careers in science’ (Collins 2004a: A7).

Moreover, despite evidence and even intuition to the contrary, the science funding review panel noted just how convenient working with an output classification system was:

The classification ... assists in meeting a number of requirements, including those of the Ministry of Research, Science and Technology for a system that is compatible with its audit and review functions, and those of the Foundation for Research, Science and Technology for allocation and tracking of the Public Good Science Fund (Science Funding Review Panel 1991: 27).

In the case of the PGSF classification system, Lyotard's analysis of the development of scientific knowledge and the related metanarrative of performativity is highly pertinent. The argument was no longer over whether the science was true or of high quality but rather whether it was relevant (translatable in the broadest sense of being of benefit to New Zealand, 'appropriable') and accountable (able to be known and managed). The discussions over what should be funded and what need not be funded, highlighted just how varied different types and traditions of knowledge production were and how their utility could not necessarily be compared with standard sets of criteria. Lyotard (1984: xxiv) observes, 'There are many different language games – a heterogeneity of elements ... The decision makers, however, attempt to manage these clouds of sociality according to input/output matrices, following a logic which implies that their elements are commensurable and that the whole is determinable'. In New Zealand, hazards research and the maintenance of related long term databases was presumably important but the question was raised as to whether research in this area could be justified in an environment where, 'A key target for the PGSF is to focus on research in economic sectors which already have, or can readily develop, a competitive advantage' (STEP 1992: 11).

The utilisation of the discourse of outputs to measure, manage and account for research performance was recycled into the university system some thirteen years later in the form of the Performance Based Research Fund. This ongoing circulation and appropriation of statements, in turn constituting and reconstituting particular practices of doing and 'being' in research, demonstrates just how durable certain neoliberal discursive formations have proved to be.

Universities have their say

Notwithstanding the legislative wrangles at the end of the 1980s, the New Zealand universities (although not necessarily academic researchers themselves) had argued for more competitive opportunities for university researchers and increased interaction between university researchers and the private sector (Watts et al 1987). In a climate of cost cutting

and efficiency drives, university research in New Zealand had the rather limited government appointed task of being *accountable* and *effective* (Goff 1989b: 9). A lack of explicit acknowledgement of the existing and potential contribution of the universities to economic (and any other) development was exacerbated by the ongoing discursive and legislative reconstruction of the universities as just one type of 'tertiary educational institution' among many.

Although the arguments of the late 1980s had not succeeded in changing the funding mechanisms for teaching and research as advised by Hawke (1988), the new legislation of 1990 opened the door for non-university degree conferring institutions, which were to include the polytechnics as well as private institutions. Under a strong neoliberal logic the idea was that these new players in the 'market' for degree-seeking tertiary level students would increase levels of efficiency and quality across the sector because of stronger competition. The idea was that students, discursively constructed as 'consumers', would flock to whatsoever institution could offer them what they thought they wanted. This focus on the individualism of the student as consumer (an 'autonomous chooser') was a key premise of neoliberalism. However Peters and Marshall (1996), informed by Foucault, argue that in fact all choices are constructed through available discourses. Students would not be able to choose exactly what they wanted to do, only what was on offer or what they came to know was available (generally through word of mouth or increasing levels of institutional advertising). For many years what was on offer in the new degree conferring institutions was well below the standards of the old university degree courses, especially since few staff were doctoral qualified or actively engaged in research.

The universities' only thinly veiled frustration at not being recognised for their unique research character and capacities either in the reorganisation of the tertiary sector, or in the restructuring of the science sector, was expressed in the NZVCC Discussion Paper entitled 'Research Priorities for New Zealand: A University Perspective': published in September 1991, in the same month as the report of the Science Funding Review Panel (1991). The NZVCC document used its criticism of the number of 'output' classes the Foundation for Research Science and Technology had used in the second contestable round of 1991/92 (there were 40 and NZVCC recommended 18) as a platform for discussing its own aspirations and research capacities. The Foreword of the document stated that the universities had, on the whole, welcomed the overhaul of the New Zealand science and technology system. It then

took the opportunity to criticise the Foundation for its allocations and funding categories, which it deemed owed more to the past than to the future. The Foreword also complained that the Foundation was unduly concerned with 'administrative convenience' rather than funding a range of research in an integrated way across 'output' categories and across levels: fundamental, strategic and applied (NZVCC 1991: iii). The universities insisted that their motivation in writing the document was not to 'promote the interests of the universities' but rather 'to define research of maximum benefit to New Zealand'. The universities stated that they did not think that their contributions and potential had been fully understood by government. This they noted was evidenced in a Foundation policy paper which seemed to show ignorance of their role and the part they could play in the national scientific effort (NZVCC 1991: iii).

The NZVCC claimed they were not promoting their own interests but were concerned that research priorities of maximum benefit to New Zealand be developed. They then went on to argue for including the universities in the national research strategy:

However, because of their depth of expertise, New Zealand's universities must play a vital role if the national research strategy is to succeed. Part II of this paper therefore describes universities' teaching and research goals, while Part III provides an indicative list of universities' current research capabilities (NZVCC 1991: V1).

Despite the protests that the document was only written with the national interest in sight, it was obvious that the universities were interested in the increased levels of funding and government attention that the researchers in the national science system were attracting. The 'problem' for the universities seemed to be that they had not been suitably 'recognised' for their research contributions, especially in terms of funding. Their 'problem' was not the systemic changes to the science system per se. Like the scientists in the Crown Research Institutes, the universities were unwillingly to substantively criticise the structure or the theoretical underpinnings of the changes to the national science system. Yet of all the institutions in New Zealand the universities were perhaps the only ones that had the resources to do a thorough and convincing job of speaking back to the government. It appears that they were unwilling to do this.

Rather, the NZVCC Discussion Paper (1991) recycled key neoliberal statements into its argument without critique. Thus the increasingly instrumental and economically focussed

policy discourse around research produced through government and the new science institutions was supported and (arguably) extended into the discourse of academic research. Certainly the NZVCC (1991) document worked hard at playing the same language game as the government, with a view to gaining increased resources as a result.

One example of this game playing strategy is the way the NZVCC mobilised a similar argument to the national science policy discourse in thematising economic development and international competition as the reason for ‘a focussed national research strategy’. The NZVCC document states:

As the Porter project noted, New Zealand is overly dependent on commodity trading, and needs to adopt a more strategic approach to maximising its competitive advantage in overseas markets. A focussed national research strategy is essential to achieving this objective, especially with regard to those areas which contribute directly to commercial and trade development (NZVCC 1991: 1).

The NZVCC (1991) statement above is not very different in sentiment, for example, to the opening of the Preface of the strategic statement prepared by the Strategic Consultative Group on Research published in October 1994 (Strategic Consultative Group on Research 1994: i).

Science is one of the foundations of a strong economy. It is one of the foundations of a stable, creative society. It also underpins our efforts to live in an environmentally sustainable world.

The future belongs to the innovative. New Zealand must either embrace science and technology or become a victim in a rapidly changing world. For a country whose economy is founded on innovative research – most notably refrigerated shipping in 1882 – we have been surprisingly blasé about investing in research and development.

If anything, the Strategic Consultative Group statement (1994) is less instrumental than that of the NZVCC document (1991).

The NZVCC paper explicitly referred to the Porter project (see Crocombe, Enright and Porter 1991) to support its argument for ‘a focused national research strategy’ (NZVCC 1991: 1). In arguing for university participation in a commercially restructured science system, discursively underpinned by a rationale of economic competition, the universities no doubt increasingly recognised Lyotard’s (1984: 47) point that ‘Research sectors unable to argue that they contribute even indirectly to the optimisation of the system’s performance are abandoned

by the flow of capital and doomed to senescence.’ University research practices and subjectivities would have to shift to accommodate this discursive reconstruction of university research. No longer was its primary focus to inform teaching and advance disciplinary knowledge. Rather it needed to show how it could contribute to economic growth. This would happen at first in the sciences but increasingly across all knowledge fields in the universities. Marginson (1997: 260) notes that, ‘In the reconstruction of research, the “power” in the knowledge-power relation was economic power’.

The idea that university research should exist as an arm of the national science system rather than as a sector in its own right with its own *raison d’être* has continued to hold attraction for governments. In one of his early public addresses as the first Labour-led coalition Minister of Tertiary Education, Dr Michael Cullen left little doubt that he expected university research to increasingly serve the needs of New Zealand, rather than academic goals *per se*:

... the shift is to expand the dialogue not just funding and regulatory issues (important though they are), but also the broad economic strategies encompassed in initiatives such as the Growth and Innovation Framework I recognise that there has been some resistance within the universities to the notion of engagement with industry. Universities it is claimed are not there simply to meet skill shortages or to engage in commercially-valued research.

That is granted; but they are there to prepare students for the challenges of the new economy, and they do need to focus their research effort on questions that are relevant to the issues New Zealand faces, be they issues of technology, health promotion, trade, economics or cultural development. When this engagement occurs, the result is more grounded and better quality education (Cullen 2005: 3).

The science restructuring was completed in 1992 under a National government when the key science institutions of the DSIR, MAF Technology, the Forest Research Institute and the Meteorological Service were divided into ten Crown Research Institutes (CRIs). The ‘Executive Summary’ of the *Summary Report: Crown Research Institutes, Research Companies for New Zealand* (Ministerial Science Task Group 1991) was unequivocal about the new commercial character of the CRIs:

The proposed Institutes will not simply be amalgams of component parts. They will be completely new organisations with considerable autonomy, a company structure, boards and newly appointed management. CRIs will

operate under their own Act, and their shares will be owned equally by the Minister of Finance and the Minister responsible for the CRIs

While the Crown will be the major client for their research and services, CRIs should also develop relationships which favour increased private sector investment in research and development and technology transfer (Ministerial Science Task Group 1991: 3).

The Crown was to be the client or customer of the CRIs as they would now bid for the majority of their science money through the Public Good Science Fund, administered through FORST. As noted previously, the universities paid their 'fee' of \$10.2 million (as it was referred to) and competed for the first time in the 1993/94 round of PGSF. The amount was ostensibly a calculation of how much universities spent on 'public good' research as opposed to research which informed teaching. That the two might substantially overlap seemed not to be considered. In the first round only universities had access to the research funding. The universities entered the contestable science system fully in the 1995/96 round (Palmer 1994).

Conclusion

During the 1980s, two major western discourses washed over and seeped into New Zealand. The discourse of neoliberalism was the stronger, leading, particularly in post 1987 recession times, towards severe cost cutting measures at all levels of government. In research this was reflected in a drive towards 'value for money' and a concomitant logic of efficiency in all sectors (measured as 'outputs'). In addition, the discourse linking post industrialism and the information age had become more mainstream during the 1980s, emphasising the commodified and utilitarian nature of knowledge. As Lyotard (1984: 4) had predicted, 'Knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorised in a new production: in both cases, the goal is exchange'. This was a different spin on earlier social and utopian impulses in the information society. Peters (1993), for example, cites '... the potential for a shift to participatory democracy; new and more extensive forms of welfare; the nature of community; and changes to value and ethical standards'. The shift from knowledge as utopian promise to knowledge as product was unambiguously constituted in science policy statements. For example, the National Party's S&T Policy Statement (1990 in Palmer 1994) in its manifesto said: 'National's challenge is to ensure that the new funding mechanisms encourage commercially driven research'. The text did go on to state that this should occur '... without mortgaging the long term nature of much

publicly funded science'. However, the question was whether an over-emphasis on one would exclude the other.

With a promise of increasing economic returns on 'investment', the restructured national science system appeared from the policy shadows and was discursively inserted into the national drive for improved economic competitiveness. The universities fared somewhat differently. Unlike in other western countries where education was increasingly seen as a necessary 'investment' for gaining competitive advantage and universities were regarded as the powerhouse of national knowledge generation, New Zealand universities were not publicly recognised for their contributions to the national economic effort, indeed they were seen as actively hindering it (New Zealand Treasury 1984). The New Zealand universities, and especially research, were a problem that needed to be 'fixed'. Partly this was seen to be accomplished by bringing the universities into the PGSF. Another attempt to bring all university research into a unified contestable system where it could be more effectively monitored and controlled would be floated in 1997 with the publication of the tertiary education review green paper (Ministry of Education 1997 a&b). This and the subsequent white paper (Ministry of Education 1998) will provide the focus of the next chapter.

Chapter Seven

University research, contestability and a bright future?

A classic example of a differend has emerged. On matters of tertiary education, the gulf between those who play this language game – subscribe to the grand narrative of market liberalism – and those who wish to defend almost any other position on the purpose and character of a university is enormous (Roberts 1998: 18).

Introduction

This chapter considers the way research policy for tertiary education was revisited in the latter half of the 1990s by a National government still constructing policy through strong neoliberal discourses. These were principally constituted in the 1997/1998 tertiary education review, which consisted of a green paper published in September 1997 (Ministry of Education 1997b), a four month consultation period and associated consultation documents, and a white paper released much later than expected, in November 1998 (Ministry of Education 1998). By the time the white paper was released, the underpinning neoliberal discourses of public choice theory, human capital theory, administrative capture, and efficiency appeared more and more bankrupt. With a poorly performing economy, made worse by the Asian monetary crisis, increasing inequalities in New Zealand society and widening educational gaps at all levels, the promise of prosperity through free markets and smaller government seemed rather hollow. This was especially the case as academics, journalists and even ultra dry politicians (such as Maurice Williamson, National Minister of Research Science and Technology) began comparing New Zealand with other similar sized democracies like Finland and Ireland which had booming economies (see for example Easton 1999d; Kelsey 1999c). Economist, Brian Easton (1999b) suggested that perhaps a ‘hands together’ (government, public institutions and business working together) rather than ‘hands off’ approach (by government) was what was required.

The legislative changes in 1989 and 1990 had brought significant structural shifts to the tertiary education sector but had left the funding of research largely intact, apart from the \$10.2 million ‘fee’ paid by universities ‘allowing’ them to enter the PGSF (Palmer 1994). New Zealand’s first mixed member proportional election in 1996 delivered a National-led centre-right coalition with the New Zealand First party as the minor coalition partner. New

Zealanders on both sides of the political spectrum had been increasingly disappointed with the performance of respective governments. Many Labour voters, in particular, were disturbed by the major societal adjustments that had been implemented under the post 1984 Labour government.

The detailed coalition agreement between National and New Zealand First proposed a 'comprehensive review of all aspects of tertiary education' (see Crozier 1997; Creech 1997b). The call was a response to New Zealand First's electoral promises of an investigation into rising student debt. It was not the case that National wanted to rethink its overall direction for tertiary education. Margaret Ledgerton of AUS (Ledgerton 1997: 14) noted:

There is no evidence that the last National government intended to review tertiary education. The government was committed to its policy direction and had signalled its aim of continuing its single-minded focus on the commercialisation of the system and completing unfinished business.

In early 1997 an OECD group visited New Zealand as part of an international comparative study of issues in the first years of tertiary education. Many would have judged New Zealand to be further down the neoliberal path than the United Kingdom by 1997. Nevertheless, the group stated that the structural changes in New Zealand society, and tertiary education in particular, were more radical than anywhere they had been with the exception, perhaps, of the United Kingdom. A key observation was the substantial rift that had occurred between government and the universities (OECD 1997b: 4). Their message, however, was that governments should continue the reforms, downplaying any resistance, particularly in the universities, as healthy debate rather than an indication that something might be fundamentally wrong.

The 1990s had seen a group of New Zealand academics (not university managers), situated mainly in the humanities and social sciences, marshal sophisticated theoretical and empirical resources to talk and write back to government and offer different ways to think about how society and tertiary education, in particular, might be organised. Partly, this involved an act of remembering that the way things had developed in New Zealand in the late 1980s and 1990s were quite different from the past. Through in-depth explanations of and critiques of various neoliberal theories they were increasingly able to argue that incessant drives towards efficiency, accountability and quality improvement were not necessarily politically neutral or ethically defensible activities. This was a paradoxical situation for New Zealand governments

focussed on fiscal restraint and ‘less government’. Should politicians really have to fund and support ‘ideas, views, teachings or even research ... contrary to their ideologies or policies’ (Codd 1998)? Government distrust and exasperation with the university sector was evident in Minister of Education, Wyatt Creech’s plea in his introduction to the green paper (Creech 1997a: 4) for a ‘constructive debate, albeit conducted with objectivity and rigour’. The problem was that anything that the government did not agree with would not be considered objective and rigorous. As Lyotard (1984) notes ‘how do you prove the proof?’ This is even more difficult if you are not playing the same language game. The academics involved in critique were well aware that in a small democracy like New Zealand discursive control and censorship could be ably managed by governments through the limitation of resources and support (Peters 1997c: 233).

Talk, leakage and more accountability for research

Once the review of tertiary education was announced there was an early signalling that the funding of university research would again be under scrutiny. The *New Zealand Education Review* reported on meetings in Wellington in February 1997 between university representatives, MORST officials and the Minister of Education, Wyatt Creech. Kit Carson, University of Auckland Vice Chancellor, was reported as emphasising that the point of university research was to underpin teaching. Presumably, his statement was made in the face of renewed calls to bring the national science and university research systems together in a unified competitive pool. The article indicated that there was still a concern about the extent to which ‘universities are accountable for their research output’ (Hotere 1997: 2).

Given that the review was going to take place, the sector acknowledged that it was timely and optimistically hoped it would produce a brake on the increasingly commercialised system that had been put in place since the legislative changes of 1990. There was also some expectation of extra funding for the sector as it strained under increased participation and decreasing government funding. Rob Crozier of the Association of University Staff noted, ‘... such a review is both necessary and welcome given that it would take place approximately six years after sweeping changes were made to the tertiary education sector’ (Crozier 1997: 8). Crozier warned that any review needed to include the full participation of those involved in the sector. Michael Peters (1997d: 8) was sceptical, however. He saw the review as ‘another opportunity for the officials to drive a narrow technicist agenda’, and in an argument turning the

neoliberal discourse of capture back on itself, he suggested that the review would be ‘captured’ and ‘driven’ by those officials.

In April, it was revealed that private consultants were being called in to assist the Ministry of Education with the tertiary education review. With only seven staff, Jane von Dadelszen of the scaled down policy ministry said, ‘We do it all the time We often contract out work’ (Rivers 1997: 3). The lack of tertiary sector experience and consultation, evident in the way the green paper was written, was well captured in a cartoon by David Fletcher (1997: A2) just after the green paper (Ministry of Education 1997b) was released. One person asks why the review is called a green paper. The answer is ‘It’s written by people with no experience’.



Figure 2: Political Cartoon

The New Zealand Herald 27 September 1997: A2.

The impending green paper gained considerable notoriety prior to even being published when details of a leaked government briefing paper appeared on the front page of the *New Zealand Herald* on 5 August 1997 (Burge 1997: A1) in an article entitled ‘Now it’s competition on campus’. *The New Zealand Herald* summarised the main points of the document as: the introduction of tertiary education vouchers for students representing an entitlement to ‘consume’ five years full time study of their ‘choice’; the redesignation of tertiary institutions as crown companies required to make a profit; the access of PTEs to public education funding, thus placing them in competition with public institutions; and a recirculation of the Hawke (1988) call to decouple the funding for research and teaching. There was also a proposal to institute a fee differential in the funding of degree and postgraduate level courses (as against degree and certificate level courses) in recognition of the supposedly greater need for staff teaching on postgraduate courses to be engaged in (and funded for) research.

Jonathan Boston, an Associate Professor in Public Policy from Victoria University of Wellington had developed a 29 page conference paper for the 1997 NZUSA Annual Conference held at the end of August 1997. The paper critiqued the tertiary education review, mainly on the strength of the leaked Ministry of Education document. His analysis appeared to be damning:

Bear in mind that from an international perspective the proposed reform package is unprecedented: I am aware of no other country, and certainly no democratic country, which has ever implemented a policy framework for its tertiary education sector of the kind envisaged

Certainly the (leaked) report provides no evidence to suggest that the current policy framework is fundamentally flawed and beyond repair. Nor does it justify its assumption that the new framework will produce significantly better results. Indeed the report provides little evidence of anything (Boston, 1997: 5).

Boston went on to observe that, ‘the proposed reforms involve a curious mix of market liberalism, paternalism, egalitarianism and managerialism, coupled with a dose of anti-democratic sentiment. A commitment to the tenets of market liberalism is evident throughout the report’ (Boston 1997: 5).

However, of particular interest to this study are Boston’s comments on the proposed funding and organisation of research, particularly in light of his later role as a key contributor to the Tertiary Education Advisory Commission (TEAC) and architect of the Performance Based Research Fund (PBRF) introduced under the Labour-led coalition some five years later. Boston observed that the leaked document did not contain any ‘reference to the quality of academic research, participative or academic principles of institutional governance, [or] academic freedom’ He then stated that the existing system of funding research through bulk funding had its problems. Specifically he cited under funding and lack of accountability (Boston 1997: 18). It was not clear in his paper if he meant that there was a lack of accountability for the research funding that was flowing from government (i.e. were universities using research money to fund research or for other activities like building programmes or international activities?) or for the actual research being produced by academics. In response to a suggestion in the leaked document that research funding would be distributed in direct proportion to university degree enrolments, Boston offered, ‘I do not have a strong view one way or another on how best to fund university-based research’ (Boston

1997: 18). He did suggest that major research programmes reliant on demand driven student funding could be extremely vulnerable, if there were ‘major shifts in student numbers between institutions, or within institutions’ (Boston 1997: 19).

Given his strongly critical introductory remarks on the leaked document, Boston’s observations on research were surprisingly equivocal. Certainly in some cases he ran close to sounding very much like the policy makers in the Ministry of Education. For example: ‘Arguably ... there is also a lack of transparency and accountability’ (Boston 1997: 18). Later in the section on ‘Funding on Research’ Boston noted that he did not think that the proposals in the leaked document would ‘improve accountability’ or provide greater incentives to enhance quality. Did he mean that improving accountability and enhancing quality in university research should be important elements in any redesigned tertiary education system? Certainly his involvement in the design of and subsequent defence of PBRF (Boston 2004) would suggest that this was the case.

The green paper

The tertiary education review green paper (Ministry of Education 1997a&b), released in September 1997, signalled a reinvigorated questioning by the New Zealand government as to the roles and benefits of tertiary education in New Zealand life generally, and specifically, for the New Zealand economy. The document put forward an argument for a stronger commitment to free market individualism underpinned by a tight yet indirect control of tertiary educational institutions by government.

The green paper itself was 96 pages long and broadly reflected the predictions of *The New Zealand Herald* (Burge 1997: A1) (although plans for research funding were more ambivalent than originally reported). The titles of the core chapters and the length given over to each were a key indication that the rationality of economics was the primary factor underpinning the review rather than the substance of education per se. For example, chapters three and four (16 pages and five pages respectively) thematised resourcing: ‘Resourcing of Tuition’, ‘Resourcing of Research done by Tertiary Education Providers’. In regard to the repeated materiality (Foucault 1969) of the ‘resourcing’ statement in neoliberal policy documents, Berg and Roche (1997: 154) observe that:

... ‘scarcity’ and ‘scarce resourcing’ are foundational tropes of neo-liberal and rational choice theories of social action. “Resource” becomes a

universal signifier in this discursive frame, implying the commodification of all sorts of items and processes. This is clearly the case in New Zealand university funding policies which emphasise ‘competition’ for scarce resources.

Further chapters highlighted issues of ownership and control: chapter five, ‘Regulatory Support’ (12 pages) and chapter six, ‘Governance and Accountability of Tertiary Education Institutions’ (20 pages). In addition, a predictable constellation of other neoliberal statements were recycled once more. These were: the mostly stable hierarchy of economic over social in lists or coordinate pairs, e.g. ‘Improved education outcomes ... can ... contribute fully to the *economic* and *social* development of our country’ (Ministry of Education 1997b: 3); as well as other statements such as: competitive environment; providers; lifelong learning; quality; value; relevance; flexible teaching; accountability; quality assurance; performance, efficiency; financial risks; input controls; governance; purchase; regulatory and ownership roles; limited resources; contestable basis; product; consumers and private training establishments. While this list of key statements does not map directly onto that identified from *Economic Management* (Treasury 1984), in Chapter four it is interesting to note the considerable overlaps and similarities, some thirteen years later.

The writers of the documents advised that the tertiary review was to provide a basis for consultation, not to present a ‘final Government position’ (Ministry of Education 1997a: 1). Submissions were to be made by 15 December 1997. Significantly, key policy ‘choices’ were presented in the document within heavily circumscribed parameters and did not, for example, include existing ways of organising research in the universities. The section on research in the green paper was conspicuously briefer than other sections. The ‘government thinking’ offered in the five page chapter was confined to looking at research underpinning teaching only and did not address other aspects of university research. The key points in chapter four were as follows:

1. Whereas universities had previously been the only tertiary level institutions to offer degrees, the 1990 legislation had enabled tertiary institutions other than universities to teach at degree and later postgraduate level. All degrees were required to be taught by people engaged in research. The newly established New Zealand Qualifications Authority loosely applied the requirement to the accreditation of all new degrees (see footnote five, page 30 of the green paper (Ministry of Education 1997b). The green paper posed the question as to whether the ‘research’ requirement should be applied to postgraduate

degrees only or all degrees. In offering the choice, the writers constructed research in a particular way. They stated in both the ‘postgraduate only’ and ‘all degree’ options that the point of research was to ‘assure the quality of ... teaching.’ They offered no explanations (or research) for how or why this might be. Neither did they discuss other substantial purposes of university research except to say, ‘Many providers will still likely have other incentives for investing in research, such as the need to attract top-quality faculty members in certain fields, and establishing and maintaining an international reputation as a centre of excellence in research’ (Ministry of Education 1997b: 31). While presenting an apparent ‘choice’ between two ‘options’, in section 4.1, the authors privilege the argument for a research requirement for postgraduate teaching only.

2. The next section (4.2), offered two ‘choices’ on the funding of university research. The choices were presented as either:
 - a. Research resourcing being tied to student enrolments.
 - b. Research funding to be allocated through contestable systems.

Both ‘choices’ were tightly associated with the construction of competitive markets for research funding. The first ‘choice’ demanded that ‘providers’ compete for student numbers in order to secure research funding. The second ‘choice’ required that researchers compete directly through competitive systems for funding. Both ‘choices’ were at odds with existing research arrangements where research was not explicitly funded (except through some external contracts) but was understood as a core function of the university and was bundled in with EFTS and institutional funding. This ‘non-allowance’ of an existing arrangement might be expressed as a ‘descent’ in Foucauldian terms, where a form of knowledge begins to be subjugated simply through not being presented as a possibility. Unlike in earlier reviews, for example, the *Report of the Research and Scholarship Working Party* (1989), both ‘options’ were offered as all or nothing. No mixed funding modes were put forward (part EFTS funded, part contestable might have been one possibility). The argument was constructed such that EFTS based funding was presented as the more attractive option since it was cheaper: ‘Contestability carries higher costs for providers’ (Ministry of Education 1997b: 33).

A perceived need to monitor the quality of research had been an ongoing issue for neoliberal governments in New Zealand but the authors of the green paper preferred a

more laissez faire approach of ‘reporting requirements’ (Ministry of Education 1997b: 33) for research rather than a contestable system which would more tightly control what would be researched and who might do the researching.

3. Section 4.3 presented the issue of defining minimum research ‘requirements’. The suggestion was that the quantity and quality of research funded from Vote Education could be specified and then reported on, on an annual basis. Page 34 (Ministry of Education 1997b) incorporated a table which attempted to define the ‘evidence’ that would be required for the ‘criteria’ of ‘quantity’ and ‘quality’. The requirement for ‘evidence’ raised more questions than it answered. The evidence for ‘quantity’ was firstly ‘research activities are carried out on an ongoing basis’ and secondly ‘the quantity of research activities and outputs is commensurate with the number of students in the same field’. What exactly ‘on an ongoing basis’ meant was open for interpretation and left this reader with images of a caricature of a lecturer on some kind of ‘research activity’ treadmill, speaking and writing as required with a trainer (university manager?) in the background ready with a metaphorical whip if ‘he’ slowed down. The second ‘evidence criterion’ for quantity suggested that one could somehow judge how much research should have been done in a particular field by how many students were being taught in that field. That is, there was supposed to be a direct correlation between numbers of students, funding and amount of research. However, the document contradicted itself. In putting forward the option of EFTS based research funding in Section 4.2, the authors specifically noted that an advantage of such a system was that ‘Providers are able to manage their research income in the wider interests of research, which might include revitalising departments that were in decline or making interdisciplinary initiatives that would not otherwise be possible from contestable, ear-marked resourcing’ (Ministry of Education 1997b: 32). This suggested that there was flexibility within an institution as to where and how research funding was distributed and that student numbers in courses would not dictate research quantum in any one area.

The first quality evidence criterion: ‘research is open to scrutiny and formal evaluation (as in peer review, publication, citation, or presentation)’, carried a strong flavour of surveillance (Foucault 1979b) constituted in the statements ‘scrutiny’ and ‘formal evaluation’. The second quality evidence criterion noted that research undertaken should have demonstrated links to the degree field. Many in New Zealand academia would have encouraged any move to

strengthen the teaching research nexus. However, the *requirement* that research map onto taught programmes would have been considered draconian and contradictory to a generally accepted view that research, particularly in the humanities and social sciences, would depend to a large extent on talent, interest and serendipity and would not be successful if heavily prescribed in accordance with what was being taught. Indeed university curricula had usually evolved in the opposite direction, with degree papers being offered which reflected the research interests of academic staff.

The writers of the green paper noted that appropriate penalties could be meted out if researchers and universities did not do what was required in respect of research 'requirements': 'Sanctions for failing to meet the (research) criteria could involve removing access to government resourcing for relevant degrees and ultimately degree accreditation status' (Ministry of Education 1997b: 34). Where once the government would have seen it as a national responsibility to ensure a high standard of education in all educational institutions, the green paper constructed the possibility of delinquent institutions; those which could not be trusted and would be punished if they did not comply with government requirements.

Responses to the green paper

The green paper was met with outrage by many groups associated with the tertiary education sector. They aired their views publicly on what was considered a short-sighted, mean-spirited, insufficient and inappropriate review document. In one of their posters, calling members to make submissions on the green paper, the Association of University Staff (AUS) called the green paper 'as subtle as King Kong' and had a caricature of Prime Minister Jim Bolger posing as King Kong, rising above the Clock Tower of the University of Auckland.

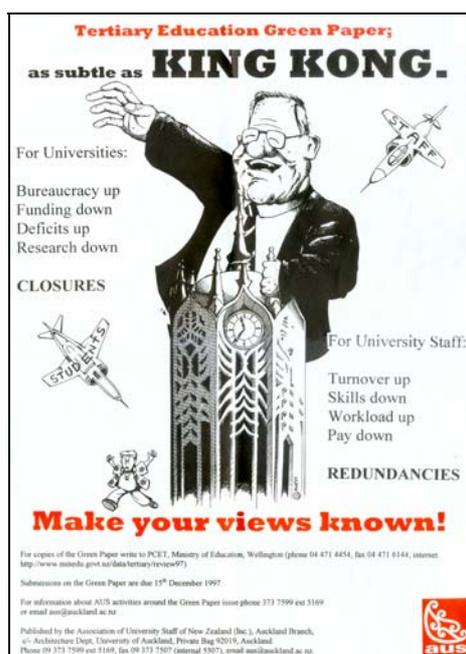


Figure 3: AUS anti-green paper poster, 1997

Another showed a salesman selling paper degrees to hordes of students with a sign above his stand announcing, ‘McVarsity: more degrees than a thermometer’.

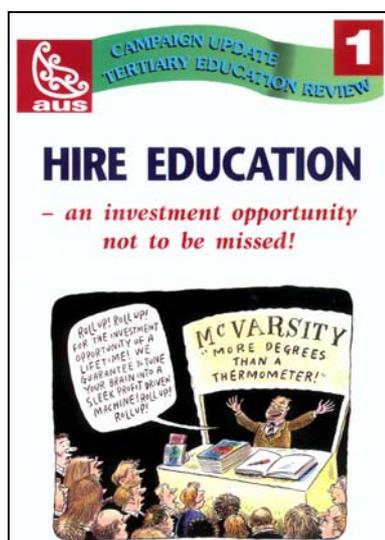


Figure 4: AUS leaflet cover calling for submissions on the green paper 1997

Spurred on by the tertiary education review green paper (Ministry of Education 1997a&b), the Quality Public Education Coalition (QPEC) was formed by concerned educators from across the compulsory and non-compulsory sectors. John Minto of Springbok Tour fame was a key organiser; Charmaine Poutney, a former principal of Auckland Girls Grammar School and Dean of the University of Waikato’s Faculty of Education, served as chairperson. Prominent University of Auckland law professor Jane Kelsey provided strong academic analysis and

academic credibility to the broad based coalition and Sir Paul Reeves, formerly Archbishop of the Anglican Church and Governor General of New Zealand, acted as patron for the organisation. I attended one of several crowded public meetings held by the coalition across the country to raise awareness over the proposals contained within the green paper. The key goal of the coalition was to ‘... ensure that the public school system is adequately funded and committed to the highest academic and ethical standards’ (QPEC 1997).

Vice Chancellor of the University of Auckland, Kit Carson, provided commentary on the green paper in special inserts of the *University News* (Carson 1997) in preparation for submissions to be made by mid December 1997. In his first series of comments in October 1997 he noted, ‘... I am driven to wonder whether the Green Paper does not constitute a recipe for further abdication by government from its broader social responsibilities in the field of tertiary education’ (Carson 1997: 3). A December article in *The New Zealand Herald* (Cohen 1997) noted that distinguished Oxford Professor and New Zealander, Dr Don McKenzie, considered the green paper to be a ‘highly reprehensible chapter in the country’s higher education history’.

Steve Maharey (1997), Labour spokesperson on Education, announced, in the wake of the *Tertiary Education Review* (Ministry of Education 1997), that the spirit of what was recommended through the *Learning for Life* working groups was worth reflecting on. For example, the Academic Freedom Working Party had pointed out the necessity, following legislation in the United Kingdom, for ‘... academic staff to question and test received wisdom, and to put forward new ideas and controversial or unpopular opinions, without placing themselves in jeopardy of losing their jobs or privileges ...’ (Academic Freedom Working Party 1989: 1). The working party also stated that research, scholarship and teaching were closely interdependent and that a separation in funding for any of these pursuits would result in a lack of academic and institutional freedom. These sentiments were strongly supported by the Institutional Framework Working Group and the Post-School Research and Scholarship Working Party. The report of the latter was particularly helpful in spelling out what could be required of academic staff in the post-school sector in terms of their responsibilities towards scholarship, research and teaching (PSRWP 1989: 20- 24).

The 31 page Association of University Staff (AUS) submission opposed most of what was contained in and suggested by the green paper: ‘There is a fundamental philosophical conflict between the market-driven model embodied in the paper and the maintenance of a

democratic, affordable and participatory system of public education that has international standing' (AUS 1997: 1). It argued that the paper was too narrowly focussed on human capital theory, privileging the economic and vocational benefits of tertiary education above a wider range of social, cultural and democratic externalities that should also accrue from a nation's tertiary education system. Significantly, the submission included a proposal for a Tertiary Education Commission. The idea of the Commission referred back to the University Grants Committee (UGC) which had been disbanded in 1989. The concept still held considerable appeal in that a commission might provide a buffer between government and the universities. During the near ten years since the UGC had been disbanded, the period had been marked by increasing interference in the work of the universities by a Ministry of Education which appeared to have little understanding of the higher education sector.

On the matter of research the AUS was forthright:

- They believed teaching, scholarship and research to be reinforcing activities that could not be and should not be disaggregated;
- They supported a mixed funding model which mostly bundled funding of research and teaching but which also provided for the 'stability and recognition of the needs of long term research projects' (AUS 1997: 2);
- Both undergraduate and postgraduate teaching was to be underpinned by research;
- Research funding should include provision for major new research equipment;
- The funding of new researcher development, particularly for women, needed attention;
- Universities in New Zealand should be distinctive institutions characterised principally through their strong research culture integrated with academic programmes across a wide range of disciplines;
- Universities should, through their teaching and research, maintain a critic and conscience role within society;
- AUS believed total funding of research and development in New Zealand was low by international standards and needed raising, preferably to the 1984/5 percentage of over .9% of GDP;

- Arrangements within the national contestable pools of PGSF and the Marsden Fund represented high transaction costs, high rejection rates and significant commitments of unpaid time for academic referees;
- Because of inadequate funding for research, capabilities remained untapped in places;
- Similar funding arrangements for funding of degree programmes in polytechnics and universities were inequitable because universities were expected to carry out advanced research and polytechnics were not (AUS 1997).

As a response to the green paper, the NZVCC again mounted a campaign to promote the ‘national and economic value of university research’ (NZVCC 1998a). The campaign culminated in the publication of a paper: ‘The case for strengthening research in New Zealand universities’ written by NZVCC Policy Analyst Brendan Mosley and NZVCC Executive Director Lindsay Tairoa (NZVCC 1998c). Part of the point of the campaign was a reaction to the increased support for PTEs implicit in the green paper as well as impending bids by two of New Zealand’s larger polytechnics (AIT and Unitec) for university status. The green paper was seen as further levelling the competitive playing field in the tertiary ‘market’ and decreasing the distinctive role of universities, thereby lending veracity to Lyotard’s (1984: xxv) observation of ‘this very postmodern moment that finds the university nearing what may be its end, while the Institute may just be beginning’. Certainly the limited analysis of tertiary education research contained in the green paper was evidence enough of the lack of bureaucratic and political understanding of the nature and role of university research.

The leading paragraph in the NZVCC article announcing the campaign indicated that the universities would engage in the debate by privileging a similar discourse of economic growth as the government and national science sector (although in the green paper the policy analysts did not recognise university research as underpinning national economic development, the issue was a key government concern given New Zealand’s flailing economy):

Overseas studies confirm university research is a powerful stimulus for economic development, producing measurable increases in Gross Domestic Product and employment. Vice-Chancellors will point to these outcomes as they seek greater Government investment in university research delivered through Vote Education funding (NZVCC 1998a).

The tactic of playing the government's own language game through mobilising similar arguments, statements (for example, 'government investment') and policy positions (wanting to promote economic development and international trade competition) to advance its own agenda was one the NZVCC had used previously (see previous chapter and NZVCC (1991)). As Lyotard (1984) argues, the authoritative narratives of government assert their own truth and are therefore power 'full'. The government and science narratives that had already attempted to prescribe a cause and effect relation between research performance and economic performance throughout the late 1980s and 1990s in New Zealand were well rehearsed by university representatives in the hope of attracting greater funding (and therefore institutional power) for university research.

Foucault's (1969) analysis of the rarity of statements/texts is pertinent. There were many arguments the NZVCC could have brought to bear in their campaign against the proposed government policies in regards to research: that engaged, active researchers over a wide range of disciplines are an essential feature of the checks and balances in a democratic society; that engaged research cultures are integral to high quality university education; that it is incumbent on New Zealand to contribute to the world stock of knowledge over a variety of fields as part of its international responsibility as a developed and relatively wealthy country. However the NZVCC saw it as being in their best interests to recycle and in some cases reactivate particular institutional statements (and especially those emanating from the national science sector) which gave a somewhat limited *raison d'être* for university research (to fuel national economic development).

While the green paper had described the funding of research as 'resourcing', the NZVCC had recirculated the statement 'investment' from the national science policy discourse, thereby constructing university research as similarly important to the science sector: something that was worthy of investment and might return a 'profit'. Another platform of the campaign was to emphasise the importance of basic research in the face of calls for university research to be 'relevant' and the likelihood that basic research would be sidelined if a contestable system were to be instituted. The universities argued also on the basis of their institutional distinctiveness and unique capacity and competence in basic research. Basic research, they suggested was far from irrelevant, it just took longer to see the results. On a continuum, basic research was the beginning, applied research the middle and marketable products were the end. Thus, basic research was constructed as one variant of applied research rather than

something else altogether with potentially quite different purposes. One NZVCC newsletter article at the time was entitled ‘High returns derive from basic research’ with the lead sentence reading: ‘Econometric analysis confirms that returns on basic research are much greater than other types of research, Victoria University of Wellington Professor Michael Irving has told a policy studies audience’ (NZVCC 1998c). While the NZVCC may still have found the distinction between applied and basic research a politically useful one to make, it is in fact arguable. John Ziman (1994: 114) notes that the ‘linear model’ has always been a ‘gross over-simplification of the sources of knowledge and innovation’. He suggests that the reason the ‘naïve utilitarian’ argument is raised again and again in research funding debates is because more subtle ways of describing the contribution of various types of research to the ‘political, economic and social needs of a nation’ have failed to develop.

Tertiary education policy papers from Hawke (1988) onwards had emphasised that a link between university and government science research should be made, preferably through an integrated contestable system, or at least through an arrangement whereby MORST would have auditing responsibilities across the entire research spectrum, including health, education and science. However, the green paper had made no reference to research funded through the Foundation of Research, Science and Technology (FORST) and there had been no reference to the major Foresight exercise launched by MORST in December 1997, not long after the green paper was published. Likewise, MORST had paid little attention to the universities in the upbeat and even evangelical Foresight exercise (analysed in the following chapter). Given that the mantra of Foresight was building a knowledge society, its omission of the major knowledge producing institutions in the country might have been considered more than an oversight. Reciprocally, the absence of any reference to the national science institutions, particularly MORST and FORST in the green paper (Ministry of Education 1997 a&b) indicated just how little policy coordination was occurring across government ministries.

However, in 1998, prior to the release of the white paper, Secretary of Education Howard Fancy called a meeting ‘... to give the Ministry of Education a better understanding of tertiary education research funding issues’ (NZVCC 1998b). The meeting included Dr James Buwalda, Chief Executive of the Ministry of Research Science and Technology. Buwalda distinguished between research in the university sector and the national science sector in the neoliberal discourse of the day as ‘learning outcomes’ and ‘innovation outcomes’ respectively, innovation being the new ‘buzzword’ in MORST and increasingly, short speak

for the entire science system. Buwalda's presentation also characterised research in the universities in strictly human capital terms: the point of university research, he said, should be to build research and researcher capacity which would attract private investment (NZVCC 1998b). Professor Bryan Gould, the NZVCC chair, by contrast, stressed that '... the research element in Vote Education was wide ranging and linked to teaching. It was not focussed on either research projects or specific outputs' (NZVCC 1998b). The two different points of view represented the gulf in understanding and aspirations for university research across the country.

Significantly, the 1998 University of Auckland Winter Lecture series (see image below) highlighted the question of the university in the 21st century. The series was organised by a key University of Auckland academic from the School of Education, Michael Peters. Michael Peters and colleagues (including James Marshall and Peter Roberts) had written extensively about the institutional restructuring that had been underway in New Zealand since 1984, particularly in the field of education. The series of six public lectures included one by Roger Kerr (1998b), Executive Director of the New Zealand Business Roundtable. The organisers vehemently disagreed with the extreme right wing views of the Business Roundtable on proposed arrangements for tertiary education. The invitation to Roger Kerr was a public demonstration of intellectual tolerance.

Kerr's paper, entitled 'Academic Freedom and University Accountability' (Kerr 1998b) controversially criticised the legislatively enshrined critic and conscience role of New Zealand universities and advanced an argument for radically decreased government funding of the universities. Michael Peters (1998: 2) reply to Kerr in the final lecture was damning:

When I heard Roger Kerr say that he objected to the critic and conscience role and that academics should speak out on public issues only if they had some disciplinary warrant, I could not help thinking of his own case. As Executive Director of the New Zealand Business Roundtable since 1986 Roger Kerr has been responsible for reports on every conceivable aspect of economic, social and political life: not only aspects of economic policy but also constitutional, welfare and social issues. His argument falls down when we apply his principles to his own case.

WINTER LECTURES AT THE UNIVERSITY OF AUCKLAND 1998

THE UNIVERSITY IN THE 21ST CENTURY

21 July

Dr Simon Marginson, Reader in Education, Monash University, Melbourne: *Harvards of the Antipodes? Nation-building universities in a global environment.*

New Zealand and Australian universities (NZAs) universalised face a growing strategic dilemma. They developed successfully as instruments of nation-building in the post-war period, but those policy and managerial settings are becoming obsolete. If they pursue their traditional nation-building path, in a globalising environment they will be increasingly marginalised. But if they cut loose from the nation-building project, aiming to become internationally competitive 'Harvards of the Antipodes' in neo-liberal terms, they face another kind of marginalisation as the poor relatives of the American universities. Is there a way through the dilemma? Do NZA universities have a distinctive contribution to make to an emerging global system of universities?

18 August

Roger Kerr, Executive Director, NZ Business Roundtable: *Academic freedom and university accountability.*

Academic freedom flows from an absolute commitment to truth and knowledge, and is rightly protected in the interests of free inquiry and expression. The association of academic freedom with the somewhat pretentious vocabulary of universities as 'critic and conscience' of society is confused. The legitimacy of academic opinion must rest on disciplinary excellence, particularly in research. The main contemporary threat to academic freedom comes from currents within higher education, particularly elite opinion and political correctness. But in the longer term academic freedom could be threatened by government monopoly over ownership and finance of universities, and would be better safeguarded in a more diverse system with strong private institutions.

25 August

Dr Michael Peters, Associate-Professor, School of Education, University of Auckland: *The post-historical university.*

In *The University in Ruins* the late Bill Readings (1996) argued that three ideas of the university dominate the modern era: the Kantian idea of reason, the Humboldtian idea of culture, and the technological idea of excellence. With the advent of globalisation and the alleged decline of the nation state as one of the major organising principles of economic and cultural development, both the Kantian and Humboldtian conceptions of the university have become problematic. Universities now function as one more bureaucratic subsystem among others harnessed in the service of the goal of national competitiveness in the global economy. In the age of global capitalism, Readings suggests, universities have been reduced to a technical ideal of performance within a discourse of 'excellence'. In Readings' terms one might argue that the founding discourse of the modern university has been permanently fractured and that, under the combined pressures of globalisation, managerialism, and marketisation, it is possible only to talk of the 'post-historical' university. The notion of the 'post-historical' university is used to signal an institutional transformation based upon processes of neoinstitutional privatisation and the challenge to universities as historical sites of colonialism. This paper responds to Readings in sympathetic but critical manner, outlining, in particular, pressures impinging upon the university's traditional freedoms and institutional autonomy in Aotearoa/New Zealand.

4 August

Professor Jane Kelsey, School of Law, University of Auckland and Academic Vice-President, Association of University Staff: *The politics of the universities.*

The idealised notion of the university as a community of free thinking scholars is under siege. The government's policy agenda is premised on the commodification of education in a consumer-driven market place. University administrations are increasingly complicit in this agenda, embracing the techniques and ethos of commercialisation and managerialism. Internationally, the knowledge industry is harnessing the potential of information technology and actively promoting the global education market through a range of international agreements. At the local level universities and academics face a concerted ideological campaign which seems designed to silence critics of the market-driven paradigm. This lecture reflects on how the universities and university staff might respond to these challenges in the 21st century.

28 July

Dr Ruth Butterworth, former Associate-Professor, Political Studies, University of Auckland: *Cnut's successors?*

There are two Cnut stories. One is the myth of King Canute which is nowadays deployed as metaphor to counter scepticism in face of claims for the unqualified benefits of such nostrums as 'marketisation' and 're-structuring'. The other is the more complex history of the real King Cnut who resisted his followers' urge to pillage and used them a lesson on the seashore about the arts and limits of governance and the folly of hubris. Both the myth and the history have some resonance in the analysis of the context over the Education Act and its follow.

11 August

Professor Hivini Mendi, To Wharanga a Avauwai Arawai, former Professor of Maori Studies, Victoria University of Wellington: *The development of Wharanga: Politics and vision.*

Our efforts to establish a Wharanga and the politics involved along the way up to the present time.

LECTURES ARE HELD IN THE MAIDMENT THEATRE 1-2PM ALL WELCOME

Figure 5: Flyer for 1998 University of Auckland Winter Lecture series

The Business Roundtable

The New Zealand Business Roundtable (NZBR) had been integral to fostering, supporting and legitimising neoliberal government in New Zealand since the mid 1980s. This included steering government debate and thinking in the field of tertiary education and research. The strong and continuing presence of the Business Roundtable on the right served to highlight the dearth of any similar think tank or policy group or even alliance on the left which could articulate strong policy options for education and, in this case, research (although QPEC was a start in that direction). Butterworth and Tarling (1994), lamenting the fact that the universities did not use the 1988 Royal Commission on Social Policy to better effect in directing opinions about tertiary education, noted that:

Greater involvement would have been mutually beneficial. But New Zealand public culture had tended to discourage both individuals and institutions from too open an engagement with critical issues. There is a generalised distaste for the political which is commonly in New Zealand translated as partisan (Butterworth and Tarling 1994: 117).

In fact the inability of the left to mobilise as a cohesive and offensive force had left a policy vacuum throughout the west which enabled the colonisation of all aspects of government and civil life by the New Right (Peters and Marshall 1996). Jane Kelsey (1997: 394) reminded her readers: 'Take economic fundamentalism seriously - what initially appears like extremism, if not effectively challenged and discredited, may in a short time be considered orthodox'. An

example of the veracity of Kelsey's advice follows. A voucher system for education had been alluded to in New Right circles since the late 1980s (Butterworth and Tarling 1994), however the NZBR intensified awareness of the concept by inviting Professor Richard Epstein from the University of Chicago to give a high profile lecture on *The Role of the State in Education* in 1995 (Epstein 1995). A reading of the lecture at the time would still have seemed like a caricature to many New Zealanders (even after the experiences of the previous ten years) who, mostly, only knew the relative luxury of a reasonably resourced, good quality state education system. Epstein himself admitted that there was only one 'small voucher scheme' in the United States in 1995 (Epstein 1995a). Both Epstein and Douglas Myers (who introduced Epstein at the lecture) explained that he (Epstein) had done very little 'sustained analysis of this complex area (of education)' (Epstein 1995a: 3). Nevertheless, by 1997, the concept had been normalised to the extent that it was seriously put forward as a possible way to organise the funding of tertiary education by Ministry of Education officials in the tertiary education review green paper (Ministry of Education 1997b).

This uptake and appropriation of extreme right concepts and policy discourses by government policy makers is an example of how discursive formations and their related practices can grow and extend (Foucault 1969) until they become productive out of all proportion to people's experience of their actual efficacy. Previously the idea of vouchers for funding education would have seemed ridiculous to most New Zealanders (including National party supporters). However, the Business Roundtable was prepared to change the rules of the language game around education and the government policy writers followed the new rules.

Of the overseas academics enlisted by the NZBR to write on its behalf, Richard Epstein is one of the most prolific and well known. The title of his 1995 publication: *Simple Rules for a Complex World* (Epstein 1995b) encapsulated the sentiments of many cynics who saw the theories of the New Right as simply the application of the same free market blueprint to every conceivable situation in human life and society. The NZBR perceived its own relationship to government as so intimate that their ubiquitous presence and influence on policy and national direction was considered somehow natural and organic. Roger Kerr was able to say that the NZBR avoided self serving lobbying (otherwise known as 'capture') and instead stayed committed to the long term national interests of New Zealand (Kerr 1992 in Kelsey 1997: 76). This refusal to consider its own activities as lobbying was disingenuous indeed. In a speech railing against the excesses of lobbying the following statement shows Kerr naively

contradicting himself: 'Someone commented to me recently that the release of the Business Roundtable's major report on producer boards was like letting RCD loose on rabbits - it was only a matter of time before they dropped dead' (Kerr 1998a).

Kerr's (negative) views on lobbying are reflected in government concepts of 'capture' which have dominated policy documents since 1984. For example New Zealand governments in the 1980s and 1990s successively regarded educational professionals (unless their opinions concurred with the government) as too self-interested to be able to advise government on educational policy. Notions of 'capture' were well-rehearsed in the tertiary education review green paper (Ministry of Education 1997b) and emphasised by the fact that no tertiary educators had been involved or consulted in writing the document (Salmond 1997).

The NZBR, for its part, consistently went further than the government to legitimise already radical policy suggestions. Responding publicly to the tertiary education review green paper (Ministry of Education 1997a&b), Roger Kerr advocated the cutting of all tertiary education subsidies to 30%, funding private institutions at the same level as public ones, and importantly, open competition for research funding (NZPA 1998: 4). These comments reflected the substantive direction of the NZBR's submission (NZBR 1997) on the *Tertiary Education Review* (Ministry of Education 1997a&b). The submission (30 pages), took a more extreme stance on tertiary education (than the government) and indeed a critical view of the green paper itself. In the deliberation over whether only postgraduate degree providers or all degree providers ought to be required to engage in research, the NZBR view was that it was not the business of government to regulate such matters. In fact, it could not see any reason why tertiary institutions would be required to undertake research at all although it finally conceded the necessity of government subsidies for contestable research which was in the 'public good'.

The NZBR had reluctantly decided to support the establishment of the Public Good Science Fund (PGSF) once it realised that significant private funding of research and development was very low by international standards and would take many years to increase. It also no doubt saw that the majority of research carried out by the PGSF was in fact of direct benefit to business, particularly, but not exclusively in the agricultural sector. The initial position of the NZBR was very close to that of Treasury (1987b) which principally advocated only privately funded research – if someone was not willing to pay then the research should not be done. The Business Roundtable considered the case for any other government support of research

which could not be regarded as public good as ‘doubtful’. It concluded that appropriate research on teaching and learning would emerge through competition between providers and that ‘consumers’ (i.e. parents and students) would be willing to pay for this research. Finally, it noted that governments were unlikely to be able to be good judges of what constituted quality research outputs (NZBR 1997).

Other country reviews

In the same year the green paper was published, tertiary education reviews were underway in both the United Kingdom and Australia. The New Zealand *Tertiary Education Review* (Ministry of Education 1997b) distinguished itself from the others by being by far the shortest and concomitantly, the most simplistic in argumentation. The United Kingdom (UK) ‘National Committee of Inquiry into Higher Education’ chaired by Sir (now Lord) Ron Dearing presented its report to a new Labour government on 23 July 1997. The report was entitled *Higher Education in the Learning Society* (Dearing 1997) and had been sought in 1996 as a response to a funding crisis in UK higher education. The report consisted of over 1,700 pages, including external reports, appendices and 93 recommendations. Rather than privileging the discourses of efficiency and ‘resourcing’, the Dearing Report carved out an expansive and inclusive role for higher education in the UK and communicated a strong commitment to the distinctive and traditional role of the universities. As Peters and Roberts (1999: 65) stated, the report also: ‘... confronts, in a rigorous and investigative manner, the new expectations and challenges facing tertiary educators in the twenty-first century’.

Peters and Roberts (1999) explained some key differences between the Dearing Report (Dearing 1997) and the New Zealand green paper (Ministry of Education 1997b). They pointed out that the concept of education was radically different in both documents. While the green paper put forward a vision of tertiary education as an expanding market of increasingly privatised educational institutions, the Dearing vision of the learning society was one in which education was desirable in its own right and where high quality education could only be achieved through educational institutions, government and business working together. Another difference between the two reviews was the issue of funding. Whereas the Dearing Report focussed on preserving and enriching public institutions, the green paper looked to be hollowing out universities, in particular, and establishing the conditions for their eventual privatisation. The two reports also promoted quite different views on internationalisation, with New Zealand’s green paper opting for an acultural, internationally competitive model

and Dearing taking a more cautionary position, emphasising the need to protect the 'defining elements of its own national system of higher education'. The Dearing report highlighted the need to increase funding for research in the humanities and arts, for civic, cultural and economic reasons and specifically recommended the establishment of a new Arts and Humanities Research Council (AHRC) as soon as possible. By contrast, the New Zealand green paper did not identify the arts and humanities as important fields for research policy initiatives. In fact they were not mentioned at all.

The Dearing report (Dearing 1997) discursively framed a well-funded and expansive tertiary education system as the way the United Kingdom would be able to pull itself out of an economic recession. There was little doubt that the new Blair-led Labour Government agreed. The Blair quote in the introduction to the United Kingdom green paper on lifelong learning was succinct yet unequivocal: 'Education is the best economic policy we have' (DFEE 1997: 1) and expressed a core platform of Third Way politics. New Zealand was still behind the international discourse in this respect, framing tertiary education and research, especially, as a 'cost' rather than as an 'investment'.

The Australian West review of tertiary education (named after the review Chair, Roderick West), published in April of 1998 (West 1998) was entitled *Learning for life: review of higher education financing and policy: a policy discussion paper*. With an emphasis on financing and efficiency the committee had been blinkered to the wider structural and cultural issues facing the sector, which like New Zealand and the United Kingdom had come under strain with increased participation rates and decreased government funding through the 1990s. The report failed to engage with the complexities of building a comprehensive tertiary education system able to meet the diverse education requirements of an adult population throughout their lives. Rather, it advocated the 'managed reform' of the sector in order to construct a 'fully fledged market in higher education' (Marginson 1998: 3). The demise of the commissioning Minister Vanstone during the review, as well as resistance by the higher education sector itself, suggested that the final report was not likely to be warmly received. This was presaged in Roderick West's own introduction to the Report: 'Our thinking may appear too radical to some and lustreless to others' (West 1998: vi).

Nevertheless, the report was significant and substantial: 172 pages followed by a number of weighty commissioned reports. The report of the Global Alliance Ltd (GAL 1997, (appendix 11 of West 1998) was particularly stark in its neoliberal vision of tertiary education. GAL, a

Tokyo-based investment bank, had been established in 1995 and had operating offices in Japan, the United States, the United Kingdom and Malaysia. The GAL authors noted that their approach ‘... was unashamedly commercial as this represents both our background and a perspective that is under represented in the 400 or so submissions presented to the Review’ (GAL 1997: 15). GAL had only four weeks to carry out their research and prepare their report, which amounted to one hundred pages. The authors noted the success of state-funded higher education which they named the ‘era of homogeneity’: ‘The legacy today is an industry to be admired for its ability to process and give most Australians an opportunity to benefit from higher education’. They went on to point out that the apparent strength of the system would be its weakness in the future:

The essential theme of this paper is that homogeneity will become the Achilles heel of a system that needs to react to the demands of the era of mass customisation The coming era is likely to be more consumer oriented, the offerings will be more diversified and the industry will be more exposed to international competition (GAL 1997: 7).

The West report (1998) was explicit in the need to get more ‘return’ on university research. Like Dearing (1997), the report suggested that there may be too much emphasis on research to the detriment of teaching in the universities (West 1998: 125).

There are signs that the balance has shifted too far in favour of research to the detriment of teaching. This is both a function of the financial incentives inherent in the existing policy framework for research and teaching, and the prestige associated with research in terms of professional advancement.

The report saw university research as a key component of ‘Australia’s broader research and innovation system’. The West Report (1998) followed the OECD (1997a) report, *National Innovation Systems*, in linking the whole ‘publicly funded’ research structure, including government science, health research and tertiary education research, with industry in the interests of achieving economic growth through ‘innovation’. The universities’ role was seen to be as a supplier of ‘basic research’, the springboard from which ‘applied research’ would be developed by industry (preferably) or national science research centres. The neoliberal flip side of wanting to see a clear line from university research to eventual product development was the desire to have more private sponsorship of university research by industry, thus allowing government to withdraw ‘provision’. But, as the West report (1998: 125) observed,

there was the perennial problem of industry not always being able to see the relevance of university research:

Private investment in university research will only increase substantially once industry is convinced of the value that it can add to the development of new technologies, skills development and product development.

The general thrust of the West (1998) recommendations was to bolster infrastructure for science research in the universities and increase their links with CSIRO (Commonwealth Scientific and Industrial Research Organisation) and particularly industry. For this reason, the authors recommended that priority setting, as utilised by CSIRO, be adopted by the Australian Research Council (ARC) specifically to:

1. develop 'higher education research and research training priorities';
2. communicate academic research to industry;
3. increase the 'effectiveness' of links between university research and 'programmes for knowledge and skills transfer and enterprise generation';
4. 'strengthen ... research links with advanced countries, and engaging countries in the Asia Pacific region with a view to building competitive advantage in the region relative to other advanced countries' (West 1998: 127).

The last point was remarkable in the narrowness of its vision. The *raison d'être* of engaging in university research with, in or on Asia Pacific countries was apparently to 'build competitive advantage.' That there might be political, cultural, linguistic and social outcomes from a range of research in the region was overlooked. In support of its vision of the potential role of university basic research, the committee suggested boosting funding for scientific research infrastructure. References to research in the humanities and social sciences were scarce.

In terms of postgraduate research training, appendix eight reported, seemingly with concern, that postgraduate students did not have the ability 'to influence the characteristics of the courses and educational services offered by universities or to pursue arrangements which best suit their needs' (West 1998: 138). The report offered no evidence or even examples of what exactly was being referred to. It seemed that the writers were circulating the discourse of public choice theory simply because it was expected rather than because they had any particular points to make. The writers went on to advocate a pseudo voucher system for the

funding of postgraduate students where previously universities had been funded for postgraduate students through block grants.

A less than adequate understanding of the potential and complexity of contemporary universities was well evidenced throughout the West report (1998), the GAL report (1997) as well as New Zealand policy documents such as the tertiary education green and white papers (Ministry of Education 1997b; 1998). The difficulty with such a situation was that the policy documents had effects that would continue to circulate and construct further policy and practices in tertiary education (Foucault 1969). This was true even in the case of the New Zealand tertiary education white paper (Ministry of Education 1998) *after* it had been discredited by both the government and the opposition. Marginson and Considine (2000: 44) observe:

There is no denying the influence exerted by normative and programmatic texts, in situations where such texts are joined to the authority of government, and fit with established corporate thinking. Where these futuristic texts often miss their mark is that the grasp on the here and now is loose, or is absent altogether. In place of research data they favour folkloric tales of failure and success from which lessons are drawn. They treat every university as if it is the same as every other, and its problems and their solution reducible to standard failings. There is only limited clarity about the larger context in which the universities are operating, and less clarity about the daily life of these complex institutions. Indeed, the closer that such exhortative texts move towards the real life of universities as institutions, the more their vision falters, and insight is replaced by a new propaganda.

The tertiary education review white paper

The government's white paper on tertiary education: *Tertiary Education in New Zealand: policy directions for the 21st Century* (Ministry of Education 1998) was published much later than expected, in November 1998. In it, the New Zealand National-led coalition government outlined its goals for tertiary education. Many of the suggestions picked up where the Labour government left off in 1990. As Butterworth and Tarling (1994: 249) had prophetically noted in their epilogue of *A Shakeup Anyway*: 'In a different political context the 1990 Act (Education Amendment Act) might be seen as something of a compromise. It may be better seen in the 1990s as a stage in a continuing struggle'.

Criticisms of the 1998 white paper came thick and fast following its release in November and included:

- the introduction of a pseudo-voucher system for tertiary education in the form of the Universal Tertiary Tuition Allowance. This was announced in the *1998 Budget* (Fancy 1998) and prior to the release of the white paper. The new funding arrangements formed an integral part of government policy to fund Private Training Establishments (PTEs) at the same rate as government institutions. Funding would ‘follow the student’ (usually expressed as consumer). The allowance was promised at first to be just above the 75% funding level in line with recommendations from the Todd report (Todd 1994), but in the wake of the Asian economic crisis it fell to below only 72.4% of full costs. In May the following year Jane Kelsey (1999b: 7) pointed out that despite Max Bradford’s rhetoric about building a knowledge society, no attempt had been made to ‘... restore the cut of \$95 million over three years which it made to tertiary funding last July in response to the Asian crisis’.
- differential funding (more commonly known as capital charging): the transfer of funding through the EFTS system from asset-rich to asset-poor institutions, possibly including PTEs. The peculiarity of this approach is captured in the following quote from the *New Zealand Educational Review* (Gerritson 1998: 9):

A controversial aspect of the differential funding system is the possibility it could include private training establishments (PTEs). If that happens the government will be in the unusual situation of compensating private operators for the fact that it paid for assets at state institutions. Furthermore, it could see private organisations given state money for the purpose of buying assets the state will not own

- issues around governance and the establishment, composition and powers of tertiary institution councils. The white paper proposed giving far greater power to the Minister of Education to influence the composition of councils. In addition, councils were reduced in size and formal representation of staff and students was not permitted (Ministry of Education 1998).

Key changes in the research policy for tertiary education as expressed in the tertiary education review white paper (Ministry of Education 1998) were as follows:

- The quality of research, where research is required, will be assured by the same process as that used for assuring the quality of courses generally;
- From 2000, the government will introduce a dual system for funding research at tertiary providers;
- First, most research funding from Vote Education (\$80 million out of \$100 million) will be allocated through tuition subsidies based on student numbers in a way that is similar to the current system;
- Second, \$20 million of current EFTS subsidies for research will be separated and allocated through a contestable pool for advanced research;
- The operation of this contestable pool will be reviewed in 2001;
- Subject to the results of this review, the size of the contestable pool will be increased gradually to \$80 million over a three-to-five year period starting in 2002 (so reducing the research component of tuition subsidies for degree programmes to \$20 million) (Ministry of Education 1998: 31).

Figure 6: Allocating Vote Education Research Funding and Assuring the Quality of Publicly Funded Research

It was evident that the year between the green paper and white paper had influenced thinking in the Ministry and the idea of a tightly controlled contestable system specific to the tertiary education sector had found favour. In regards to the question of whether all degrees should be taught by academic staff engaged in research or only those at postgraduate level, the white paper deferred any immediate decision, signalling a review to consider the matter in more detail in 2001.

An important outcome of the white paper was the move to identify a research funding component within every EFTS. Previously, funding for teaching and research had been bundled within an EFTS with neither being explicitly identified. The move to carving out the research component identified a particular research 'subsidy' for undergraduate and postgraduate qualifications. The research 'subsidies' amounted to: nothing for non degree programmes, \$500 per EFTS for degree level programmes, \$2,400 for taught postgraduate programmes and \$3,800 for research based masters and doctoral programmes. The use of the word/statement 'subsidy' constituted a particular 'effect'. Research in the national science system was an 'investment', whereas research in the university system was discursively

constructed as a cost, something that needed to be ‘topped up’. The statement ‘subsidy’ suggested that the government was paying a (smaller?) proportion of the total cost and that someone else (ideally external funders) was picking up the main cost.

Criticisms specifically targeting the proposed research policy quickly followed the release of the paper. The conveniently round figure of \$100 million that the government supposedly currently contributed through EFTS funding to the tertiary research effort was denounced as being crude and inaccurate:

Lincoln University vice-chancellor Frank Wood questioned the \$100 million figure set aside for research and said that it did not appear to be a calculated figure but a number that had grown (Cassie 1998a: 10).

Apparently the \$100 million figure was ‘... drawn from a 1996 Ministry of Research Science and Technology study of university expenditure that used some “fairly dubious assumptions” to decide how much was spent on research’ (Cassie1998a: 10).

The zero-sum game of taking money from current EFTS to, firstly, transfer through an EFTS top-up and, eventually, through almost full blown contestability raised a number of problems for universities in particular. Early calculations determined that the money targeted for redistribution was coming primarily from current university (rather than polytechnic) enrolments and particularly postgraduate subsidies. Of concern for cash-strapped science faculties was the proposal that an across-the-board top-up for doctoral science students would be levelled to the same rate as for arts, whereas the differential at the time varied between \$4-6,000. High compliance and administrative costs in a contestable environment were seen as a difficulty especially since the government had established the \$100 million figure of questionable historical derivation, with no indication of future increases. As AUS research committee spokesperson, Neville Blampied, noted: ‘The proposal does nothing to address the desperate underfunding of research in New Zealand’ (Cassie1998a: 10). In addition, the government’s requirement for a strategic focus in the research requiring that: ‘Researchers ... demonstrate how their portfolios will develop the innovation and resource capabilities of New Zealand’ (Ministry of Education 1998: 33), was criticised as being anathema to the university system where any research of significance would be supported, whether or not it had specific relevance to New Zealand, e.g. the investigation of Sanskrit manuscripts or a cure for malaria (Cassie1998a: 10). The University of Canterbury Vice-Chancellor, Daryl Le Grew, called the government’s proposed policy ‘anti-intellectual’, ‘aggressive anti-university’ and a ‘macho

approach to the way that dry economics is being run in this country' (Cassie 1999b: 1).

He also made the point that the international credibility of New Zealand's universities was at stake with the threat of even lower levels of research funding in the context of already low research funding by international standards.

In the meantime, PTEs and polytechnics were publicly supportive of the white paper and complimentary of government tertiary education policy, generally (Cassie 1998a, Cassie 1998b, Martin 1999). In particular, they were looking forward to attracting increased funding through EFTS top-ups for research and following on from that, the proposed contestable research fund. Supporters of government policy often employed the notion of a 'level playing field' for all in the interests of fair competition in the tertiary education market to support their and the government's position. The following quote demonstrates how far the tertiary education debate had strayed from the notion of education for citizenship, the common good or even to get a job. Richard Goodall, president of a large private degree provider in Auckland, noted that '... a capital charging regime would still not create a level-playing field as if private providers made a profit they had to pay tax on a third of it, while a state institution could put a surplus aside for capital investment' (Cassie 1998b: 11).

During the latter part of the 1990s media commentary increasingly criticised what appeared to be an outdated mode of neoliberal politics still being conducted by the National government. Economically, New Zealand looked no better for the myriad of social and financial hardships that people had undergone over the 1990s. In the United Kingdom, Tony Blair's Labour Government had come to power in 1997 under the banner of Third Way politics (Giddens 1998 and 2000) emphasising the need for equal emphasis on social and economic outcomes. In order to achieve this it was increasingly held that government coordination, support and leadership were necessary to develop a strong tertiary education sector. The metanarrative of efficiency in all areas was increasingly displaced with the discourses of innovation and creativity. The ultimate aim, however, remained the same: to competitively trump other countries in the game of economic progress.

Max Bradford: First time Minister for Tertiary Education

By the time the white paper (Ministry of Education 1998) was published it already looked like a lame duck, both too simplistic and too draconian even for members of the National party, who were increasingly influenced by tales from abroad about the importance of the tertiary

education system (and particularly the universities) for building competitive national economies. In the lead up to the 1999 election Prime Minister, Jim Bolger was replaced by New Zealand's first woman Prime Minister, Jenny Shipley. Under Shipley the discourse of the knowledge economy began to gather momentum as the National government readied itself for another national election.

This increasing belief of the importance of tertiary education to the economic effort was underscored by the appointment of Max Bradford as New Zealand's first Minister of Tertiary Education in the National government's January 1999 cabinet reshuffle. In another climate such a move might have been seen as a positive acknowledgement of the need to address the distinctive complexity of the sector. Under the circumstances, however, the appointment caused widespread apprehension. Max Bradford had been a strong supporter of New Zealand's economic restructuring and was integral to key changes during his time in parliament e.g. the deregulation of New Zealand Post and the institution of the Employment Contracts Act. Bradford's pre-parliamentary career spanned finance, economics and employment and included a number of years in Treasury, four years working for the International Monetary Fund and later the Employers' Federation (Chen and Palmer 1998: 1-2). In 1999 Bradford was already the Minister for Enterprise and Commerce, Minister of Revenue and Minister of Defence. Many were worried that Bradford's new appointment would mean a further erosion of public tertiary education in New Zealand (Barkness 1999: 6).

Prime Minister Jenny Shipley's post election clustering of cabinet responsibilities had explicitly drawn together portfolios of tertiary education, commerce and enterprise, science, research and technology, and the Crown Research Institutes into one cluster. Bradford stated that the purpose was to bring the tertiary sector on board with promoting growth in the economy. The *New Zealand Educational Review* reported:

Bradford said he, along with cluster colleagues Maurice Williamson and Simon Upton, were going to be building up a closer network between their sectors to meet the common aim of stimulating growth.

In his own area of enterprise and commerce, work had been done developing ideas to provide a "major stimulus" to help growth industries particularly clusters of like industries. "To do that we've got to have a major growth input of intellectual capital into key industry groups that have got major growth or significant growth potential". He said obviously the tertiary

sector from industry training organisations to universities had a role to play in producing the intellectual capital needed (Cassie 1999a: 3).

According to the white paper (Ministry of Education 1998), however, this was to be achieved in an environment where university research was to receive no more and in fact saw funds decreasing in post-graduate areas and through the bureaucratisation involved in contestability.

Subsequently, though, Bradford distanced himself from the white paper. It seemed that Bradford's cabinet cluster had engaged in a major rethink of how New Zealand's prosperity might be achieved. On Rod Vaughan's documentary (Vaughan 1999), Maurice Williamson (Minister of Research Science and Technology) admitted that his party would have to look to the Irish example of strong government leadership and support to improve the New Zealand situation.

A bright future?

Just eight months after the white paper review on tertiary education was released the weekend paper sub-headline read: 'A review of *tertiary education* on hold as the Government rethinks *economic strategy*' (my emphases) (Small 1999b: 1). The article implied that not enough thinking had gone into the white paper on how knowledge production in tertiary education could be linked to economic growth.

The [tertiary] review did not deal with some key issues in the sector, including whether the government owned the universities Next month's announcement would bring together the education, business and venture-capital initiatives – “and this will become part of the new conventional wisdom ... about the policy mix we will need to shift us rapidly into the knowledge-based economy”.

Mr Bradford said the changes did not signal a backtracking, because the reforms of the past 15 years were preconditions for this new round of measures, although they were not in themselves enough (Small 1999b: 1).

Indeed, the white paper's recipe for hollowing out postgraduate programmes (particularly those of science and research) and research generally haunted the government as increasingly the warnings and realities of the 'brain drain' and truncated science careers commanded expanding media space.

The *Bright Future* package, launched by Max Bradford and Prime Minister Jenny Shipley on 18 August 1999, demonstrated that some thinking had gone into repositioning the National government's tertiary education policy just three months out from an election. *Bright Future* was the government's answer to accusations of a lack of government leadership and direction in New Zealand's knowledge policy. It explicitly pulled together research, business and education for the service of business and economic performance.



Figure 7: Presidential-type launch of Bright Future featuring Bradford on the big screen
 ‘High tech hoopla fails to inspire’ (Small 1999a: 15).

The *Bright Future* sixty-four page, corporately presented and illustrated package, was, ostensibly, the result of consultation across the country during Max Bradford's *Five Steps Ahead* road show between April and July 1999. The five steps as announced in February 1999 were as follows:

- lifting our skills and our intellectual knowledge base
- better focussing the Government's efforts in research and development
- improving access to capital
- getting rid of the red tape stifling innovation

- promoting success, and supporting creative and innovative New Zealanders (Ministry of Commerce 1999: 7).

These 'steps' were intended to drive policy within the science regime as well as in education at all levels. For the first time in New Zealand, the *Bright Future* document integrated and articulated the goals for government science, education and research in a cohesive if not comprehensive policy.

Effective linkages between the world of work and the world of education are crucial and need to be strengthened These linkages need to be fostered from an early age through entrepreneurial studies at school (Ministry of Commerce 1999: 16).

The movement of people with specialist skills will be an important catalyst for spreading innovation across the economy. We need to increase the flow of ideas between researchers and industry, both internationally and within New Zealand. It is imperative that the worlds of education, research and business achieve a genuine partnership (Ministry of Commerce 1999: 29).

The document was published by the Ministry of Commerce even though it outlined programmes in the science and education fields. While New Zealand was at a stage where some coordination and leadership from government (as opposed to greater inter-institutional competition) was certainly welcome, the *Bright Future* developments were narrowly targeted at economic development and hardly admitted a role for education and knowledge production for any other purpose than to boost the economy. Guy Neave (1988: 274 in Peters 1997c: 225) commenting on changes in education policy discourse in Europe made an observation that could have equally applied to New Zealand: 'My thesis is that education is less part of social policy, but is increasingly viewed as a sub-sector of economic policy'.

Few could disagree with the populist rhetoric of the *Bright Future* package. Slogans saturated the document:

... ideas are our greatest asset Government will make life simpler for the small and medium-sized businesses that are the powerhouse of the New Zealand economy We've got to want to be the best and have confidence in ourselves that we can do it Educators have an important role in equipping students to positively contribute to the knowledge age society that is evolving (Ministry of Commerce 1999).

But by 1999, the *Bright Future* package seemed much too little and much too late. As the President of LIANZA, Penny Carnaby, noted at the time, ‘there is evidence the knowledge base is diminishing’ (Carnaby 1999: 7). For example, 1500 journal subscriptions in university libraries had been cancelled in 1998 making information much more difficult and expensive to access. John Scott, Chief Executive of Christchurch Polytechnic, observed that many of the initiatives previewed in *Bright Future* were aimed at rewarding and fostering people at the very top of the academic ladder, for example in the form of elite doctoral scholarships for overseas study. He pointed out that these may not be the most innovative and entrepreneurial people at all (Scott 1999: 7): ‘... polytechnic and university drop outs, will frequently turn out to be those who stretch the boundaries and challenge the status quo.’ The *Bright Future* document privileged science and technology-based knowledge as the only knowledge that had any commercial value. The idea that knowledge might have any intrinsic value largely disappeared until it made a brief appearance in the first TEAC report (TEAC 2000). Moreover *Bright Future* (Ministry of Commerce 1999) held that knowledge with commercial value was the only kind of knowledge worth producing. It seemed that only people working in the areas of commercial knowledge production were to be valued and funded to the exclusion of those who engaged in any other kind of ‘knowledge work’.

Conclusion

A move towards a more explicit accounting and accountability for university research and funding in tertiary education, as well as the construction of research markets as the vehicle through which the allocation of academic funding would be managed, were core features of the neoliberal tertiary education policies advanced over the late 1980s and 1990s in New Zealand. By the late 1990s policy analysts wavered between a fully EFTS funded model for academic research, where institutions would be held strictly accountable for their aggregated research ‘output’ (Ministry of Education 1997b), and an elaborate contestable research fund, which would separate research and teaching funding. The latter option would require individual academics to apply for research project-based funding to do research rather than have research as an integral requirement of their work (Ministry of Education 1998).

The idea was that exact knowledge of how much research in each institution cost could eventually lead to a concomitant calculation of the exact value of each research output and the productivity of each researcher. This, in turn, would enable managers to hold individuals directly accountable for their ‘research output’ against the amount of funding they had

‘consumed’. However, in the event only a notional figure of \$100 million was available at the time of the release of the white paper (Ministry of Education 1998). The figure seemed to be based on convenience rather than close calculations and produced derision in the universities, underscoring even further the lack of expertise available in the Ministry of Education.

A general preference for a disaggregation of academic roles (for example, teaching versus research versus ‘management’) and costs was a feature of a drive towards greater accountability. This was thought to lead to greater efficiency and performance, transparency, reliability in reporting and simplicity of systems for direct line management. An ongoing repeatability and expansion of statements around research accountability (Foucault 1969) which had begun in the late 1980s would be taken to a new level under the Labour-led coalition elected in the latter half of 1999 and would appeal even more to a new government which increasingly recognised the role of the universities in building a knowledge society in New Zealand. By knowing more about what academic researchers did and how much it cost, the government might be able to drive them to greater levels of research performance.

Lyotard points out, however, that the quest for full knowledge of a complex system is probably impossible and certainly expensive in terms of resources and energy to try and achieve, ‘... a complete definition of the initial state of a system (or all the independent variables) would require an expenditure of energy at least equivalent to that consumed by the system defined’ (Lyotard 1984: 55). He also notes that the effort expended in attaining perfect control ‘is inconsistent with respect to the law of contradiction: it in fact lowers the performance level it claims to raise’ through a bureaucratic stifling of innovation and cycles of negative feedback’ (Lyotard 1984: 55).

While this quest for pinning down academic work and holding academics accountable would continue albeit in more elaborate forms, what had changed by 1999, was a realisation, which had come late to New Zealand, of just how important university research might be both in training knowledge workers and creating value ‘able’ knowledge. Moreover, for these benefits to accrue, universities would almost certainly require adequate government funding (investment?). It had also become apparent that ‘advanced’ countries were increasingly developing policy to enable their knowledge sectors (science and the universities) to work synergistically rather than competitively. Rather than creating internal markets for increased efficiency, the focus had shifted to national economic development for competition in the

international market. The new narrative was that New Zealand might need to draw on the knowledge resources of its universities *and* national science system in order to lift itself out of the bottom half of the OECD. This new language game was expressed in the National government's late attempt to demonstrate an ability to engage in 'hands together' rather than 'hands off' government through the launch of *Bright Future* (Ministry of Commerce 1999). The danger was that by putting all the country's knowledge 'eggs' in one 'basket' (the economy) other gaps might appear including expansive and generous understandings of what constituted knowledge (Lyotard 1984).

Chapter Eight

New knowledge discourses - Foresight or foreclosure?

In its pretensions to total success, however, capital's superiority over the speculative genre resides at least in its not seeking to have the last word, to totalize after the fact all the phrases that have taken place in all the genres of discourse (whatever their finality might be), but rather in seeking to have the next word (Lyotard 1988b: 138)

The modern way of thinking declines when people no longer believe they must merely project their lives toward a future ideal that always seems just as far away. Instead they must 'program' exactly what this future is going to be; so they live more and more in the future, thinking about it, planning it, and hardly ever in the present In the frenzy for progress the past tends to be cut off from current vital interests, and the present is fragmented into separate projects designed to make the future exist today – a contradiction in terms The lifestyle of living more in the future than in the present is postmodern (Schultz 1998: 6).

Introduction

At the beginning of 1998, the New Zealand Ministry of Research, Science and Technology set in train an ambitious consultative process known as the Foresight Project to begin to 'rethink' and reprioritise research directions. This chapter examines the reasons for the project and tracks its discourses over 1998 and 1999. The Foresight Project was a thinking 'blueprint' emanating from western corporate culture and first employed by Shell Corporation as an alternative mode of business planning. It signalled a move away from strategic planning for national science to a more fantasy-laden notion of 'thinking from the future'. Implicit in the project was a 'rebranding' of New Zealand as a 'knowledge society'/'knowledge economy': a smart, well educated, hi-tech country which would be able to attract transnational corporate investment, compete on a more vigorous basis with the rest of the world and be the globally connected, innovation centre of the Pacific. On the cusp of the 1999 national election both major parties, National and Labour, shaped their election rhetoric around versions of the knowledge statement. National opted for the knowledge economy while Labour aligned itself to a more inclusive sounding knowledge society. Both parties accepted the narrative of globalisation and the concomitant requirement for international economic competition as a given. Development of innovative knowledge products would be the means by which New

Zealand would compete internationally. The intensive circulation of ‘knowledge’ statements in policy and, later, media texts, increasingly focussed on the key knowledge producing institutions, the universities, and the various organisations which made up the national science system. While these were presented as something qualitatively new for New Zealand, Steve Fuller has observed that the statement ‘knowledge society’ (like neoliberalism) is philosophically rooted in positivism:

... it is truly perverse of celebrants of the Knowledge Society to declare that humanity is on the threshold of a new conception of knowledge that will have to be evaluated on its own emerging terms. After all those terms emerged long ago, but are only now fully realisable. They can be summed up in the word Positivism: industrial society’s final frontier (Fuller 1997: 76).

Research, increasingly restated as ‘innovation’ discursively emerged as the answer to New Zealand’s economic woes.

Leading up to Foresight

The science sector had been through two major reprioritising exercises following on from the structural upheavals of 1989. Both of the latter exercises had caused considerable disruption to a science community which had come to see itself as under funded, lacking in job security and less effective than in its pre-1990 days. The move to a contestable funding regime in the early 1990s had signalled a shift from science policy led by career scientists to a supposedly more strategic era of science planning for New Zealand. An article in the Ministry’s newsletter noted:

... this new approach will ensure that Crown-funded research has strategic coherence; it will provide a coordinating mechanism for identifying both gaps and excessive overlaps in the overall programme ... (MORST 1990a: 2).

However, the realities of the new system were far removed from the promises. Widely varying opinions about how the organisation of national science should proceed in New Zealand were evident in many science policy documents through the early and mid-1990s. As early as 1992, the effects of short term contestable funding began to be felt in the form of unpredictable research programmes and fewer long term career prospects for young scientists. Moreover, the new science priorities were seen to reflect traditional science funding channels,

particularly with regard to agriculture. A document entitled, *Long Term Priorities for the Public Good Science Fund: A Discussion Paper* (STEP 1992), pointed this out and stated that the pattern of public good science expenditure should reflect future requirements (more technology related) rather than historical funding categories. Another ongoing debate was whether all science should be directed towards profit 'able' science or whether there was a place for other roles for national science such as natural hazard investigation and monitoring (e.g. volcanology) (MORST 1992: 3).

The early 1990s also saw the emergence of a science discourse which incorporated a notion of futurology. In 1993, Simon Upton, Minister for Research, Science and Technology, returned from a Science and Technology Mission in Asia, stating that as a result of his observations it had become apparent that New Zealand needed to develop a vision of what sort of society it wanted to be in twenty years time (Upton 1993: 1). This interest in future directions received ongoing coverage. A 1993 visit to the United Kingdom by the New Zealand Chief Scientist, Professor Don McGregor, prompted reference to the United Kingdom's white paper on Science and Technology in *Sci-Tech* (the Ministry's newsletter), including their proposed foresight operation (MORST 1993a).

In October of the same year Dr Laurie Hammond, Chief Executive of the Foundation for Research, Science and Technology (FORST), began to discuss alternative research funding arrangements beyond the hard nosed 'purchasing practices' of contestability. He signalled the need for a move away from a dependence on a contestable system relying strongly on peer review to '... a more negotiated approach to the funding of portfolios of bids' (Menzies 1993: 3). Interest in Foresight planning was raised when Ben Martin, Director of Graduate Studies at the Science Policy Research Unit (SPRU) of the University of Sussex, spoke at a three day Research, Science and Technology seminar in Wellington in October 1994. Martin, in collaboration with John Irvine had '... pioneered the notion of research "foresight" as a tool for looking into the longer term future for science and technology'. The purpose of Foresight was reportedly '... to identify areas of strategic research likely to yield the greatest social or economic benefits' (MORST 1994a: 3).

Funding of public science in New Zealand had decreased substantially over the 1980s until in 1989 it had dropped to 0.57% of GDP from a high in 1981 of nearly 0.85% of GDP (STEP 1992: 2). Reports such as *Long Term Priorities for the Public Good Science Fund: A Discussion Paper* (STEP 1992) *Path to 2010* (MORST 1993b) and *RS&T: 2010* (MORST

1995), however, began to explicitly link economic progress with funding levels for science. The 1993 document (MORST 1993b) outlined the government's commitment to raise public investment in science to 0.8% of Gross Domestic Product GDP by the year 2010. In addition, attempts to transcend the difficulties in the new science regime's relatively short-term funding cycles were articulated in the 1995 draft discussion document, *RS&T:2010* (MORST 1995). In this document a range of objectives for New Zealand science were expressed including Key Science Areas (KSAs) – ‘... areas of core capability in which investment must be sustained in order to assure the long-term integrity of our science system’ (MORST 1995: 25).

While the need for long-term planning had begun to be obvious, MORST's focus in the mid 1990s was on securing an ongoing and increased funding commitment from the government of the day and encouraging private investment in R&D. Moreover, the emphasis in the *RS&T:2010* (MORST 1995) draft discussion document was not as focussed on economic development and competitiveness as later documents under Foresight were. For example, in the draft discussion document, attention was given to three broad (science-based) areas: the recognition of the cultural importance of science; a demonstrated positive commitment to science, technology and innovation; and the achievement of socio-economic targets. In addition, Simon Upton noted that the pursuit of knowledge was intrinsically valuable and that the pursuit of wealth could not be the only motivator for national science research:

The strategy [*RS&T2010*] also makes it clear that scientific research is valued for the simple purpose of advancing knowledge ‘for its own sake’ and for the role it plays in allowing people to make rational decisions and to challenge conventional wisdom (MORST 1995).

A fund for basic science

Partly due to the wrangles over what constituted basic science and what constituted applied science, and partly due to accusations that FORST through the PGSF was not funding the right balance of research, the National government agreed to establish an alternative research fund out of the total research funding pool in 1994. The fund was also a response to the Minister, Simon Upton's conviction that contestable funds serving different purposes should be ‘housed’ differently. The Marsden Fund named after the nuclear physicist and founding Secretary of the Department of Scientific and Industrial Research, Sir Ernest Marsden, first called for research proposals in the 1995 financial year. The fund was to be open to all

researchers, including those from the CRIs, universities and private researchers. Rather than being managed through MORST or FORST the fund was independently run and hosted by the Royal Society of New Zealand from December 1995. From 1997 the fund was to constitute approximately 10% of combined funding for the PGSF and Marsden Fund. The function of the Marsden Fund was to provide support for non government-prioritised, researcher- instigated, curiosity-driven research. As a result of intense lobbying by the Humanities Society of Aotearoa/New Zealand (HUMANZ), a humanities panel was added to the six assessment panels (life sciences, biochemical and biomedical science, earth sciences and astronomy, mathematical and information science, physical sciences and engineering, social sciences) in 1997. The objectives of the fund did not include contributing to economic performance. Rather, they related to enhancing New Zealand and the world's knowledge base and extending and deepening research capacity in New Zealand.

In locating the Marsden fund outside MORST and FORST and emphasising the non prioritised nature of the research, Marsden organisers were seeking a more academic and prestigious tone or 'brand' for the fund. The newsletter was a sober black and white publication while the information brochure was a dignified maroon, gold and white (see below). These publications were substantively different from the brighter advertorial documents published by MORST from the mid 1990s.

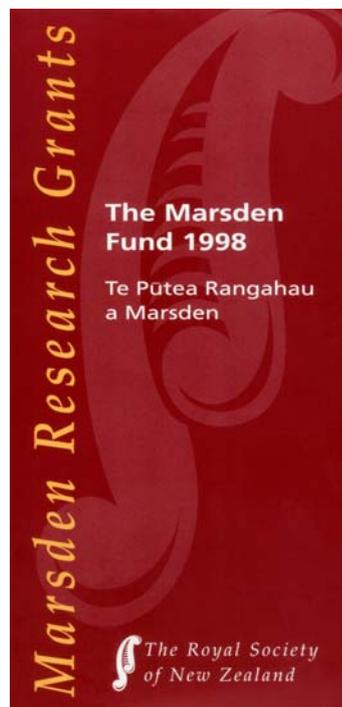


Figure 8: Cover of Marsden Fund brochure (1998)

However, there was much that was paradoxical about the Marsden fund, not least using the name of the foundation secretary of the DSIR for a fund that was partly the product of the disestablishment of the very same institution. The Marsden documentation announced that the fund was ‘fully contestable’, thus making it comply and operate under the constraints of other neoliberal policy initiatives, like the PGSF. Researchers would have to compete in a tight market for funds. And the competition for Marsden funding was (and continues to be) fierce. In the 1997 financial year 1,170 preliminary proposals were received and only 58 were successful (RSNZ 1997). It might well be argued that this very low success rate was highly inefficient and represented a large opportunity cost for applicants and their institutions. Instead the differential between all applicants and successful bidders was held up as evidence that Marsden was funding ‘excellent research and excellent researchers’ (RSNZ 1997).

Significantly, ‘excellent’ was left undefined. Excellence is one of those statements that appears to be neutral and therefore serves to close down debate. Everyone is supposed to know what excellence is and supposed to agree that it is important. Yet, it is, as Bill Readings (1996: 22) observes, ‘entirely meaningless, or to put it more precisely, non-referential’. The ‘excellent’ and ‘non prioritised’ research that was funded by Marsden in 1997 saw \$5.9 million spent in year one on sciences and \$1.1 million on social sciences (\$700,000) and humanities (\$400,000). And so, while the Marsden fund applicants did not have to tailor their research applications to government science priorities, prioritising was strongly at work. Various types of research in the sciences were (and continue to be) prioritised both in terms of the amount of funding they receive and in terms of the number of projects that are funded. Moreover, in addition to the competition between Marsden applicants (individuals and teams), the fund, with its deliberately constructed prestigious (‘high brow’) character, helped to establish (along with the PGSF) a strong culture of research competition between the universities. By the mid 1990s, not only were New Zealand universities competing against each other for domestic and international students but they were increasingly competing against each other and the CRIs for research funding. In 1997 University of Auckland was at the top of the league table with 16 Marsden grants, while Lincoln and Waikato sat at the bottom with one each (RSNZ 1997).

A new language game

In his final comment in *Sci-Tech* as Chief Executive of MORST, Dr Basil Walker (wrongly) predicted that there would be no more than ‘fine-tuning’ to the funding priorities set for the

Public Good Science Fund for at least five years (Walker 1996: 12). He warned that further changes to a change-weary system could result in considerable harm. However, a sharp shift in the language game for science came in 1996 when Dr James Buwalda replaced Dr Basil Walker as Chief Executive of the Ministry for Science, Research and Technology.

Buwalda began to vigorously articulate the connection between science, knowledge and the economy. His article 'Foresight-Innovation-Technology; today's successful business trinity' (Buwalda 1996a: 6) leaves no room for doubt as to how he viewed science research and where strategic planning in the Ministry was heading. In the article, which had been printed in *The Dominion* the month before, Buwalda put forward a market logic for private and public science which bypassed the broader goals for science, present in some earlier MORST documents. Basically, innovation (which had increasingly become a synonym for research) was to be utilised for the formulation of new products in hyper-competitive world markets: 'Success in such dynamic markets will depend increasingly on anticipating or leading changes in consumer preferences, and being the first to develop new products to fit' (Buwalda 1996a: 6). Buwalda linked a range of areas to possibilities for *product development* and economic expansion. The ageing community, for example, was not foregrounded as a focus for research on changing patterns of employment or health concerns but as a profit-making opportunity for '... a growing market for healthy lifestyles and health products' (Buwalda 1996a: 6). Whereas once New Zealand had been concerned with utilising its science knowledge to assist developing countries in the region (Palmer 1994), Buwalda focussed on 'The emerging middle class in Asia (as) ... a vital niche market for New Zealand firms' (Buwalda 1996a: 6). Rather than seeing a need to research convergences between communications, computing and entertainment for their effects on the ways people conduct and manage their lives, they too are seen as 'niche opportunities'. In addition, both the environment and cultural diversity are commandeered to serve market interests rather than being worthy goals for research in their own right.

Buwalda's context for 'innovative thinking' was to be Foresight, a method of thinking forward to an idealised future supposedly free of current constraints and prejudices. Foresight went hand in hand with concepts of a knowledge-based society. It seemed, however, that only certain kinds of knowledge (knowledge products which were relevant to a/the market) were to be valorised:

Knowledge, the ability to diffuse it and to assure innovation, productivity and quality, will be a central, defining feature of the development of our society (Buwalda, 1996b: 6).

The February 1997 issue of *Sci-Tech* (Williamson 1997) neatly juxtaposed tensions and growing research gaps in the science regime. The new Minister of Research, Science and Technology, Maurice Williamson, outlined his vision for the portfolio, implying a required shift of research investment into sunrise technological industries and away from traditional agricultural-based research. He stressed the need for New Zealand to compete strongly on the international market and that success in this field was more likely to occur if New Zealanders were equipped with the ‘right’ skills and knowledge. Williamson’s slippage between ‘knowledge’ and ‘information’ runs the length of the article. However, there are problems with conflating *knowledge* and *information*. Peters and Roberts (1999: 71) point out that *knowledge*, based on a tradition going back to Plato, should be a ‘true, justified belief’, whereas *information* implies no such condition. They believe that collapsing the two ‘statements’ ‘perpetrates flawed accounts of both the production and consumption processes of knowledge and of knowledge institutions’.

Nevertheless, Williamson (1997) went on to reify the commercial model of science funding and clearly intended for this to go further:

I have never been one to let Government departments tread where private enterprise rightfully belongs. Governments do not make good innovators and we need innovation as much as anything at present That is not a government job; it is the realm of people who share a vision that New Zealand stands to benefit hugely (sic) (Williamson 1997: 1&3).

In Rod Vaughan’s (1999) documentary on the economic success of Ireland two years later, Williamson admitted what would heretofore have been considered heresy. He stated that government direction and leadership may be a necessary ingredient for achieving a healthy and vibrant economy.

Meanwhile, in another article in the newsletter entitled ‘Science and Government decision making’ (MORST 1997), the loss of research-based knowledge to the country since the break up of the DSIR and other government department restructuring was recorded. The article noted that since all government departments had had to focus more narrowly on a set of core functions, the wider research capability in these areas had disappeared. Reduced funding also

meant that research could not be contracted for externally. Also, without in-house research capability, departments were less able to make effective use of external research. The article noted:

This is in contrast to many other developed countries, such as the UK, Canada or the USA, where individual government departments have significant scientific and research capability in their own right (MORST 1997: 2 - 4).

The article also stated that some of the long term social, economic and environmental monitoring and databases, previously managed by the DSIR, had fallen by the wayside in the post-1990 environment because it was not clear which CRI would or should be responsible for any particular area. This was especially so if there was no commercial advantage:

Some long-term science activities may also be critical for underpinning policy development. For example, some key environmental and social monitoring activities, collections and databases may have intrinsic and long-term value but may not address current socio-economic priorities (MORST 1997: 2).

Further on in the article, issues not seen since in Ministry documentation, are articulated, such as a need for scientific advisory groups to be able to ‘speak truth to power’ and voice critical and dissident opinions. The need for diverse representation on advisory groups is also noted as a way to avoid ‘ossification’ of views and policies (MORST 1997).

Foresight is launched

A year later, in December 1997, the New Zealand Foresight Project was launched. Its two-fold purpose was to devise the new priorities for government science ‘investment’ that Walker and others had not thought necessary, and to develop a way of conceptualising the future, particularly in regards to new knowledge and technological change (MORST 1998). Cassie wrote: ‘the research sector faces this latest shake-up to the science system already wary, if not a little demoralised, after a decade of change and stagnant funding’ (Cassie 1999c: 7).

The future which was to be imagined, despite the rhetoric of free choice, was closely preconstructed for participants in the Foresight Project. One of the key documents of Foresight was *Building Tomorrow's Success: Guidelines for Thinking Beyond Today* (MORST 1998). In line with Lyotard's (1984) observation that capital generation has become

inextricable from technology and science, that is techno-scientific knowledge, the publication conceptually links ‘knowledge society’ to technological change and global competition. One example is: ‘Knowledge societies will exploit the enormous potential of new knowledge – intensive technologies in areas such as information and communications, biotechnology, medical systems, and nanotechnology’ (MORST 1998: 9). The Foresight exercise, while using the term knowledge *society* appeared to be putting forward an argument for knowledge production to fuel a knowledge *economy* through the commodification of knowledge:

Globalisation of the world’s economies has fuelled competition, and increasingly competitiveness is achieved through knowledge-based technological innovation (MORST 1998: 8).

In this case the supposition was that a particular kind of knowledge would be preferred: culture-free knowledge that could be bought and sold on a world market. The document did not discursively allow a future for those who did not wish to market their knowledge. Like other western governments, MORST took a decidedly monological stance on issues of globalisation and the knowledge society (Peters and Roberts 1999; Hayrinen-Alestalo 2001). These notions had never been neutral and transparent and in fact had been vigorously debated in scholarly and popular literature over many years, although there was never a hint of such debate in the Ministry Foresight literature. Peters and Roberts (1999: 72) argue:

These are not uncontested terms, [knowledge society, global information society]. They are value-laden and theory-laden concepts that have been part of social and cultural theory for over thirty years. What this means is that there is no innocent approach to these terms or their unproblematic use which can be hived off from the accumulation of theory, especially the sociology of post-industrialism and post-Fordism to which they belong. We would argue that there is a public obligation on the part of MORST officials to acknowledge these theory contexts and to present them clearly as part of the overall discussion.

Part one of the document *Building Tomorrow’s Success* (MORST 1998) established four key ‘imperatives’ for thinking about the future. These constructed a destiny which was apparently non-negotiable, along with ways in which New Zealand would have to respond. Each point carried strong modality (including: *must not, is, will have, requires, must*) implying that there was no choice. Action was taken away from human actors (the people of New Zealand) and instead metaphorically ascribed to inanimate ideas and concepts which were not

comprehensively defined (focus on the future, technology, a globalised economy and the government's strategic investments in research, science and technology). These 'imperatives' were:

- The focus on the future must not be constrained by what we have been doing in the past.
- Technology is a key driver for knowledge societies, and will have wide-ranging implications for the structure of society and the way we address economic, social and environmental goals.
- A globalised economy requires us to be internationally competitive.
- The Government's strategic investments in research, science and technology must be used effectively to underpin New Zealand's development of a knowledge society (MORST 1998: 5).

Foucault has explained how fiction constructed as/posing as truth works through discourse to produce truth effects. That is, the lived world can/will become how it is fictioned in policy documents.

It seems to me that the possibility exists for fiction to function in truth, for a fictional discourse to induce effects of truth, and for bringing it about that a true discourse engenders or "manufactures" something that does not as yet exist, that is "fictions" it (Foucault in Gordon 1980: 193).

The Foresight 'imperatives' (above) were one example (there are many in the Foresight policy documents) of how fictions could structure actions to bring about the conditions described. Taking the first imperative: there was no evidence offered as to why the future 'must not be constrained by what we have been doing in the past'. This was a fiction. In fact the 'imperative' was counterintuitive: it would be impossible for New Zealand's future not to be constructed through its past. However, the point was to infer that New Zealanders had operated inefficiently, uncompetitively and even inappropriately in the past and to urge them to radically alter their behaviour for the future in order to compete successfully with the rest of the world. The 'truth' was that New Zealand had for most of its colonised history operated a successful export-based economy. While the economy had certainly floundered through the 1990s this was seen by some to be a direct result of neoliberal policies and a concomitant

rejection of the country's past history (Hazeldine 1998, Kelsey 1997). The 'effects' produced by fictions such as these, particularly through constituents of the policy community and the public in general, need to be recognised. People are moved to talk and do things (make changes) that they would not have done had the 'imperatives' (as an example) not been written. In the final chapter of the thesis I suggest that the 'reception' (Pennycook 2001) of some of these policy documents (particularly where they constitute fictions) is a fertile and important area of research which might be carried out as site-specific research e.g. a CRI or a university.

Scenarios

Foresight was designed to encourage thinking and research of a certain kind. This was borne out by the three scenarios (all fictions) presented at the end of *Building Tomorrow's Success* (MORST 1998). Scenarios, the document pointed out, were an integral part of the Foresight process. They were supposed to be:

... engaging, plausible stories about the future. They are not predictions or plans, but devices for mentally organising a large amount of information and thinking about various choices that lie in front of us Within scenarios, the insights about the future can help us to identify what needs to be avoided as well as what is desirable. By constructing several scenarios, it is possible to explore how various futures might evolve - including nightmares as well as utopian visions (MORST 1998: 18).

The writer goes on to explain that usually three and no more than five scenarios are used in scenario building. MORST chose to present three scenarios. In an examination of the Foresight Project, Peters (1999b: 4) questions the justification for three scenarios (why not twenty three?) and what choices participants really had when each of the scenarios was so obviously constructed to signify 'particular ideologies'. The scenarios included two nightmares: *Possum in the Glare* and *Shark Roaming Alone*, and one utopian vision which participants in Foresight were obviously expected to favour: *Nga Kahikatea Reaching New Heights*.

The scenarios were as follows:

Possum in the Glare

New Zealand is caught like a possum in the glare of the oncoming future. But possums are hardy creatures, and New Zealand muddles along by finding new markets for traditional agricultural products, and combating falling prices with new production technologies

Shark Roaming Alone

After a period of economic difficulty, New Zealand has adapted quickly to keep up with the changes of the early 21st Century. Rapid uptake of new technology and the Internet, and the success of the entrepreneurial approach, have made us a highly individualised society of sharks

Nga Kahikatea Reaching New Heights

Around the world, there is much interest in the social change that has occurred in New Zealand over the first decade of the 21st Century. What marks New Zealand out from other countries is a strong and widely shared sense of purpose and national intent. A nation of kahikatea, standing together (Ministry of Research, Science and Technology 1998).

Ironically, each of the scenarios was clearly rooted (if superficially) in contemporary New Zealand self images. The utopian *Nga Kahikatea* relied especially strongly on romanticised notions of entrepreneurialism, right wing solutions to Maori land claims advocated by the ACT (Association of Citizens and Taxpayers) party in the lead-up to the 1999 election, and assumptions of a privatised, globalised future which were well on the way to being realised. What help they served to imagine something really different was not at all obvious. In a discussion relating Ankie Hoogvelt's (1997) work to the Foresight Project, Wallace and Packer note: 'What is truly disturbing about this picture is that these are not alternative or distant possibilities. They are all happening in the same place. Here. Now' (Wallace and Packer 1998: 5). The stunned possums caught in the glare were the unemployed and underclass in New Zealand unable to connect to education, technology and therefore employment; the roaming sharks were those in short term casualised jobs and contracts,

always looking over their shoulders and protecting their 'patch'; and the kahikateas were the lucky ones who were able to enjoy the full fruits of the globalised economy, their security assured through a high level of income in secure, long term employment.

A Foresight strategy for national policy-making tends to deliver promises rather than action. It goes without saying that tomorrow never comes, although the lead article in the April 1999 edition of *Sci-Tech* was entitled 'Foresight nears the Future' (MORST 1999d)! Future promises (like the three year trial of consultation between the government and the people advocated in *Nga Kahikatea*) therefore, never had to be delivered (Wallace and Packer 1998). Also, because of a *future* focus, *contemporary* problems and difficulties did not need to be confronted. For example, serious social policy research looking at how New Zealand could promote a fair and equitable standard of living was not a funding priority. Moreover, in Foresight, historical lessons and knowledge did not need to be taken into account in any serious fashion. As Bruce Jesson (1999: 61) has noted in relation to the post-1984 restructuring of New Zealand: 'The total break with the past is linked with total contempt for the past' and this seemed to be the case with the Foresight fixation with the future.

Wallace and Packer (1998) explained that scenario building had originated in film making and went on to be utilised in government and corporate strategic planning exercises in the 1970s and 1980s as a way of constructing *choices* for the future. Scenario building continues to be closely associated with business management, especially. Wallace and Packer (1998) examined the over-emphasis in the MORST scenarios on economic and technological factors to the (almost) exclusion of social and cultural explorations of possible future scenarios and noted the way that New Zealand was constructed, especially in *Nga Kahikatea* (the favoured scenario), as New Zealand Incorporated, a large private corporation, with everyone working towards the same goal (economic success), rather than as a diverse (and complicated) democratic country. Wallace and Packer's (1998) motivation in writing the paper was to consider ways in which the future is culturally and socially, rather than economically (or scientifically), determined. They wrote, 'What is required are scenarios where a variety of voices and languages are placed alongside each other so that they can keep on discussing the evolution of the environment. Scenarios are needed which have complex options with complicated consequences' (Wallace and Packer 1998: 14). The irony in the very conception of the Foresight Project itself is that the documentation implies New Zealand will have no

control over the effects of globalisation and yet the project itself purports to be able, through the Foresight consultative exercise, to choose and even to dictate a New Zealand future.

Foresighting

A key feature of Foresight was the corporate, branded look to the Foresight publications, documentation and website. This was in considerable contrast to earlier and contemporaneous government science and education policy documents. The *Tertiary Education Review* (Ministry of Education 1997 a&b), for example, was presented in plain covers with no graphics at all. Earlier MORST and FORST reports were decidedly more sombre than anything that was produced through Foresight. New Zealand Foresight, in contrast, had its very own symbol. It was a face made up of the symbol four and two circles representing eyes on either side. The Foresight 'colours' were red, lime green and purple.



Figure 9: Foresight logo (MORST 1998)

Indeed, some of the advertorial for Foresight, particularly within the Foundation (FORST) and Ministry (MORST), rang with religious fervour and childlike playfulness. Steve Thompson's (Chief Executive of FORST) description of *faper* - paper made from fish scales became the lead article in a Foundation newsletter (Thompson 1999: 6) and was a good example of this enthusiasm (see below).

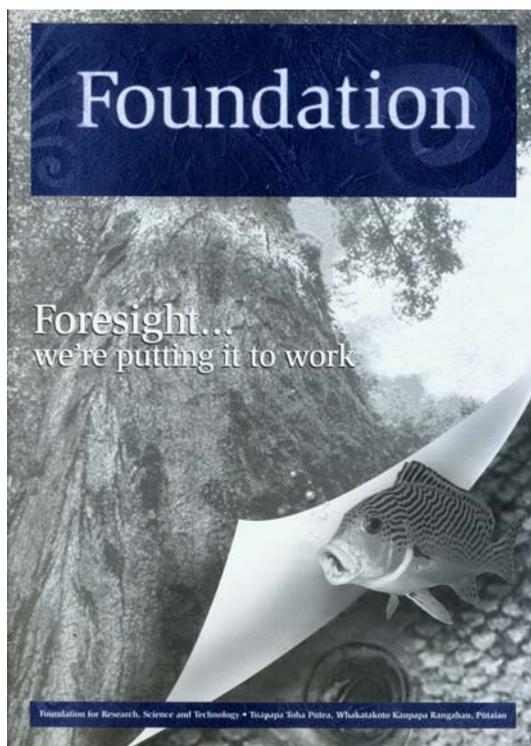


Figure 10: Foundation newsletter

Highlights the paper concept on its cover (March 1999)

The Foresight Project proceeded apace in 1998 with a variety of sector groups becoming closely involved in the process. The Midsight conference of June 1998 was considered a great success and won the KPMG (KPMG is a multi national business which provides multidisciplinary business services) award for ‘Innovation in the Public Sector’ for the use of an E-conference tool kit (MORST 1999b). Foresight claimed to encourage diverse consultation and indeed many sectors were involved, especially science ‘providers’ (mainly from the CRIs), some business representatives and other government organisations e.g. Health. However, as Peters and Roberts (1999) have observed, as a process which traded heavily on predictions and conceptions of the knowledge society there was a noticeable lack of links into and representations from the country’s main knowledge institutions, the universities. In addition, there seemed to be minimal participation and awareness about the process from those outside the immediate spheres of the government science system. For example, at the Midsight conference only about fourteen of the participants were women, four participants were Maori and two were Pacific Islanders. No other ethnic groups seemed to be represented (I was a participant in the conference). In addition, the prioritising exercise was heavily influenced by MORST and FORST officials and their closely-tailored ideas as to how they envisaged the new science priorities. At the Midsight conference the officials worked on

the conference participants' prioritising exercises overnight to arrive at draft priorities for the next day. The drafts were more reflective of Ministry and Foundation views than the actual work that had been done in the workshops on day one.

By the end of October 1998 more than 120 sector groups had submitted Foresight strategies to the Ministry and these provided the basis of target outcomes released for feedback in December 1998. In keeping with the innovation theme the draft target outcomes were presented in a hexagonal box more akin to drinking coasters than proposals for science funding. As Fiona Cassie (1999c: 8) wrote in *New Zealand Educational Review*:

The 17 draft target outcomes for research investment were released late last year on colourful hexagonal cards packaged in a designer hexagonal box. The idea was to arrange the cards in honeycomb clusters to help judge whether they covered the entire spectrum of research activities. Not everyone enjoyed the game.



Figure 11: MORST hexagonal cards
Three of the many hexagonal cards which made up the MORST draft target outcomes for consultation, 1998.

The draft target outcomes were charged by some as being too vague and insufficiently robust to drive the allocation process effectively. Moreover, the new consultation (rather than peer review) process for portfolios was seen as even more time-consuming for researchers than the

former bidding process, and there was a danger that it would be open to expensive lobbying tactics (Cassie 1999c).

In a discussion of Foresight and the New Zealand science reforms, Brian Easton (1999a) points out that with the tight controls over what research would be done, and this was especially so in the new negotiation (rather than peer review) process, any research putting forward other than the favoured economic views (neoliberal in this case) would be unlikely to be funded and such researchers would be unlikely to be motivated to apply for funding. Just such views were expressed, for example, in Foundation (FORST's regular newsletter) by Winsley (1998). Easton (1999b) made the further point that this kind of controlling of knowledge would favour the status quo rather than innovation, which the government was so keen to promote. In fact the tightly prescribed way in which Foresight was conducted suggested that, despite the rhetoric, genuine alternatives were never really going to be an option.

Consultation continued through 1999 with the release of the document *Blueprint for Change* (MORST 1999a) implying paradoxically, that a blueprint for innovation/research could be provided. The science prioritising exercise that emerged from Foresight, renamed RS&T as the innovation system and produced four science envelope goals, long term directions for science. They were: 1. the innovation goal 2. the economic goal 3. the environmental goal and lastly, 4. the social goal.

As in subsequent tertiary education and science documents which have relied on an ever changing smorgasbord of national goals, the innovation goal masquerades as something new and differentiated, but adheres most strongly to its historicity around science, technology and the production of commodities, thus underpinning economic development. This seems problematical for a Ministry of Research Science and Technology which has goals beyond the economic to meet. The *Blueprint* document was nothing if not explicit in its conflation of innovation and economic goals.

Under the innovation goal it was noted that: 'This goal links directly to the Government's aspirations to create an enterprise economy and to value innovation.' Under the economic goal it was noted that: 'This goal links to the government's aspiration to develop an enterprise economy' (MORST 1999a: 9).

The draft target outcomes were reduced to fourteen and were underpinned with the more detailed Strategic Portfolio Outlines (SPOs) of which there were twenty six, more or less aligning with New Zealand's key industries and interests. These were released on 15 November 1999. Foresight and its policy outcome *Blueprint for Change* (MORST 1999a) had discursively reconstituted the RS&T sector. No longer described as the science system, government funded science in the *Blueprint* is described as the *Innovation System*.

This renaming of the RS&T system as the innovation system effectively heralded the construction of a new discursive formation which had been extending from its quite restricted domains over the 1990s. This 'emergence' (Foucault 1979b) over the decade was formally constituted with the release of *Blueprint for Change* (MORST 1999a). The statement 'innovation' had been circulated with increasing intensity over the 1990s but was especially prominent after James Buwalda became the Chief Executive of MORST. He regularly advised New Zealand researchers and business people through his columns in *SciTech* on how to be innovative. These included 'Investing in innovation' (Buwalda 1998) 'Implementing innovation' (Buwalda 1999b) and many other variations on the theme. A change in function and semantic substance of the word/verb innovate and its inflections is well underscored by a comparison of dictionary entries. Just eighteen years ago, *The Pocket Oxford Dictionary of Current English, Seventh Edition* (Allen 1985) did not list innovation as a headword. Innovation was listed under the verb 'innovate' as an inflection of that word and with no separate meaning. The meaning for innovate was given as: 'bring in new methods, ideas, etc, make changes' (Allen 1985: 380). In the *New Pocket Oxford Dictionary, Ninth Edition* (Soanes 2001: 468), the noun innovation appears as an individual entry with two meanings: 'the action of innovating', 'a new method idea or product'.

While the dictionary and lay discourse have only recently acknowledged and incorporated this specific meaning of innovation, the statement has a historicity in science and commercial product development dating back to Schumpeter's work earlier last century. Brown et al (2000: 186) point out:

Innovation has long been described as a stepwise process from science to the market. Schumpeter (1934) was the first to analyse technical innovation processes more thoroughly and to conceptualise technical innovation in stages of invention, innovation and diffusion.

Later studies of so-called innovations have proposed that ‘... objects developed and elaborated by actors describe a whirlwind pattern’ (Brown et al 2000: 187).

Leaving aside the question of linearity versus whirlwind development, several things are evident in this understanding of innovation. In its narrow sense it is related very directly to the development of new commercial products as an outcome of scientific experimentation. In a wider sense it inextricably links science, technology and the market place and understands this linkage as underpinning the continual regeneration of the capitalist system.

Lyotard observes that innovation or the novelty of an ‘unexpected move’ is a vital ingredient in wealth creation in a capitalist system (1984: 15):

... the system can and must encourage ... movement to the extent that it combats its own entropy; the novelty of an ‘unexpected move’ with its correlative displacement of a partner or group of partners, can supply the system with that increased performativity it forever demands and consumes.

Lyotard’s suggestion here is that innovation, under advanced capitalism, becomes an integral part of the mainstream. This migration from science to society was evident as the ‘innovation’ statement began in science policy documents e.g. Foresight (MORST 1998) and *Blueprint for Change* (MORST 1999a), and were then recirculated in meta policy documents like *Bright Future* (Ministry of Commerce 1999) and the *Growth and Innovation Framework* (Clark 2002). ‘Innovation’ and its driver techno-science became even more synonymous with ‘progress’, particularly economic progress. In discursively associating innovation with ‘all-of-society’, ‘all-of-society’ became an economic project, as opposed to a social, cultural and democratic project. Chapter ten provides a fuller discussion of the development of the statement ‘innovation’.

Hijacking Foresight?

In an election year, Foresight was, according to some, hijacked by a new tertiary education minister, Max Bradford, eager to put together an appealing package for business. One observer wrote: ‘... exactly why (did) Bradford and/or Cabinet ... very hastily decide to shortcut the whole Foresight process and (just before the election) turn it into something else much more appealing to New Zealand’s Business Community’ (talk-foresight@netlink.co.nz 1999). With a white paper (Ministry of Education 1998) to jettison (see previous chapter), Bradford as leader of the ‘team for innovation and enterprise’, launched *Bright Future*

(Ministry of Commerce 1999) in August 1999. *The New Zealand Herald* called the new scheme, ‘... National’s road-to-Dublin conversion, courtesy of the Irish and Finnish economic miracles’ (Small 1999a: A15). As discussed in the previous chapter, the package brought together a range of strategies designed to demonstrate greater government commitment to and coordination of economic development, science and technology education and ‘innovation’ amidst accusations of a lack of government leadership (Vaughan 1999; Easton 1999a) in these areas. The launch of the package, closely associated with the National party rather than the coalition government as a whole, followed on from Max Bradford’s Five Steps Ahead programme. The programme had consisted of twenty five cross-sectoral fora across the country earlier in the year. Small (1999a: A15) acerbically commented ‘... ‘five steps ahead’ is as much a pre-election plug to an increasingly sceptical business sector as it is a long term shift by National. But after one small step towards the centre right, there may be no going back.’

While the Foresight Project had largely sidelined the universities in its vision of a futurised knowledge *society*, the National party had moved to integrate tertiary education with science and technology in its plan for a knowledge *economy*. In response, one commentator publicly noted: ‘The universities’ principal mission is nurturing intellectual ability and not aiding economic development’ (Cassie 1999d: 2). In *Bright Future* (Ministry of Commerce 1999) the cultural and social fields are ignored. Education, science and technology exist to service the needs of a knowledge *economy*. Slippage between knowledge society and knowledge economy occurred with ease. Significantly, the decision to use the singular *future* rather than plural *futures* reinforced the notion of one New Zealand working together as a corporate body for one outcome, an outmoded modernist concept in a country as diverse as New Zealand (Roberts 2004).

The launch of *Bright Future* prompted some searching questions on the MORST website and suggested unease in the science community and the Ministry itself over the new package:

- How does the Bright Future announcement relate to the Foresight Project and Blueprint for Change?
- How will research that does not have a commercial application be affected by these initiatives?

- By shifting investment from the Public Good Science Fund to fund other science initiatives isn't the Government robbing Peter to pay Paul?
- Does this mean the Government is reducing its investment in research related to our commodity exports (MORST 1999c)?

Despite being somewhat eclipsed by *Bright Future* (Ministry of Commerce 1999) in the short term, the Foresight Project, like its British counterpart, was supposed to be ongoing. That was the point of Foresight. Its timetable stretched out to 2004 when existing Public Good Science Fund contracts finished. Enthusiasm within the Ministry seemed as strong as ever. Prior to the 1999 election, James Buwalda wrote yet another commentary linking technology, science, the knowledge society and wealth:

This is a world in which communications technology creates global competition - not just for sports shoes and hamburgers, but also for entertainment, banking and other services that can't be packed into a crate and shipped.

Investment in science and technology buys new concepts or the means to create them, rather than new machines. The ability to create and apply knowledge is becoming more important for competitive advantage, wealth creation and solutions to many social and environmental challenges (Buwalda 1999a: 1).

A change that was discernible from Ministry policy documents earlier in the decade was the call for government involvement in coordination, planning and (financial) support:

A vital role for Government is to act as a facilitator, helping New Zealanders reach their goals and enabling them to adapt to the new demands of a knowledge society (Buwalda 1999a: 1).

Brian Easton (1999a) argued that the changes to the science regime instituted under Foresight, despite a continual reliance on commercialised language, actually retreated to processes resembling those in place under the old DSIR. He wrote: 'In many ways this is a moving back to the old DSIR, with FORST as the head office and the CRIs as the divisions, albeit with greater transparency and public input' (Easton 1999a: 171). There were differences, however. FORST bureaucrats tended not to be as well qualified as the old DSIR chiefs and staff turnover in FORST was high throughout the 1990s, whereas in the DSIR it had been very stable. Institutional memory and relationships with science 'providers' were lost again and

again throughout the decade. Also, the instigation of government priorities for science as well as funding changes during the restructuring at the beginning of the 1990s had significantly changed the research landscape. With funding directly linked to projects and programmes rather than to departments, FORST, in particular, continued to be able to exert a strong influence over what science could be done. The relationship between FORST and research contractors continued to be based on agency theory ‘reflecting a concern to ensure ‘water tight’ principal–agency contracts’ (Cartner and Bollinger 1997: 783). In addition, there continued to be an assumption through Foresight that there was a positive relationship between priorities for science and research outcomes ‘and that this relationship could be planned and managed’ (Cartner and Bollinger 1997: 783) which was not necessarily the case (Lyotard 1984).

Nevertheless, the Foresight process attempted relatively wide-ranging consultation although this still failed to bring in many relevant groups, not least the universities. Foresight promoted sometimes diverse thinking and discussion over future directions, which was well characterised in its lively, informative and often dissenting internet chat group, talk-foresight@netlink.co.nz. For example, one participant on talk-foresight commented that the whole premise of New Zealand Foresight was that of economic growth driven by science and technology, which in turn carried no promise except to facilitate the perpetual invention of new and better products to sell to others. He wrote: ‘...it left me with an image of our society as a sort of Titan rocket lifting off the launch pad and then gradually accelerating into outer space until it disappeared altogether’ (talk-foresight@netlink.co.nz 1999). Another participant made a similar contribution:

Certainly it is much easier to make progress if you ignore some of the issues – but will the direction be right? ...All our science planning is being directed towards economic growth, with the promise that when we have enough growth, we will have a better life. Growth is usually assumed to be good, no argument. Why do we assume this so lightly? Is the economic growth we are hoping to achieve appropriate? Do our plans include it stopping, ever? If not, why not? If so, how will we know when to stop? Perhaps we should have stopped already? (McDonald 1999)

As these commentators observed, the Foresight Project remained in many respects firmly embedded in a neoliberal discourse privileging the narrative of economic progress over social and cultural considerations. Again the discursive hierarchy of the economic over the social, cultural and environmental was hardly if ever disturbed (Foucault 1991). Its neglect of

versions of globalisation beyond a fiercely competitive world market as well as an insistence on discursively constructing New Zealand as a knowledge society seemed to leave out the possibility of many other kinds of knowledge production, including most kinds of indigenous knowledge, knowledge aimed at building a strong, democratic and equitable society, and knowledge that would contribute to global sustainability and peace rather than hyper competitiveness. While the shark roaming alone scenario was put forward as a nightmare (MORST 1998), that is how New Zealand was constantly constructed in the discourse. Where once New Zealand had had trading partners, the country now had only competitors, as all countries fought (usually metaphorically but some literally...) in the world battle for economic survival.

In her 1999 book, *Reclaiming the Future: New Zealand and the Global Economy*, Jane Kelsey (1999a) explains globalisation as a reworked version of neoliberalism, extending the power of capital to every facet of the spatial and temporal world. In the Foresight Project, globalisation was almost always presented as inevitable (There Is No Alternative - TINA) and desirable (if we can just sell more, things will improve). Writing of the status of globalisation in the mid 1990s Kelsey stated:

Globalisation assumed an aura of virtual omnipotence. It was unfashionable, almost unpatriotic, for New Zealanders to question the benefits it might bring. Its advocacy by corporate leaders, politicians and officials went largely unchallenged, despite a paucity of empirical evidence to support their arguments. Dissenting voices struggled to be heard. Critics drew parallels between the economic and social consequences of the global agenda, and the New Zealand experiment, both of which sacrificed the well-being of poor people (and poor countries) to the self interest of big business and wealthy elites (Kelsey 1999a: 11).

Drawing a parallel with the economic self-interest of the late nineteenth century, its demise through the Great Depression and the subsequent development of social democratic governments throughout the western world, Kelsey (1999a) documented the emergence of other narratives in New Zealand, such as the opposition to and stymieing of the Multilateral Agreement on Investment (MAI), and internal opposition to the hosting of APEC (Asia Pacific Cooperation) in Auckland in 1999. Kelsey believed globalisation (as a neoliberal construction) had had its day. Her analysis strongly critiqued the globalisation hyperbole in programmes like Foresight and offered an alternative story on the eve of a national election.

It is time to cast the myths of globalisation aside. The tide is turning against the global free market in New Zealand, and around the world. The lessons of history and the lessons of the book are that nothing is inevitable. The state of the future still rests largely in our hands (Kelsey 1999a: 385).

At the time, Finland was frequently held up in New Zealand as a very successful economy of comparable size and population, a country that New Zealand should emulate along with Ireland if the country was to improve its economic ‘performance’. In contrast to the singularity of arguments and explanations in the New Zealand Foresight Project, the Finnish Report by the Committee for the Future (1997) suggested different questions and constructions of the future. They warned: ‘Knowledge itself is not what matters most, but rather the way in which it is used. Like any other instrument it can be abused’ (Committee for the Future 1997: 5). The report went on to enumerate the current problems of the world which urgently needed to be addressed, including the global environmental crisis and the need to help and support burgeoning populations in developing countries; it stated that national governments need to assume more responsibility for their citizens’ well-being; it discussed the need for authentic global democracy in order to give weight to decisions around global problems and for this to develop alongside an invigorated national democracy; it talked about the moral responsibility people bear for the effects of their choices on the rest of the world. The report observed that success in a globalised market assumed ‘... tough - downright merciless - work and competition.’ The authors went on to define success in an alternative way:

... success must be seen as a concept that is considerably broader ... than economic success. Success on the part of the individual or of a community is the achievement of the goals that they themselves have consciously, and in part unconsciously, set. Success by a society means providing the preconditions for a good life for citizens. Improving opportunities for citizens to participate and increasing equality, environmental sustainability and fairness are characteristics of a successful society (Committee for the Future 1997: 7).

Conclusion

Lyotard (1984: 3) observes that it is ‘... unwise to put too much faith in futurology’. This might be particularly the case when the images of the future are narrowly based and ahistorical. New Zealand’s hyper discourses around the future and particularly the role of knowledge in the future, viz: the Foresight Project and *Bright Future* (Ministry of Commerce

1999) dominated the science policy landscape throughout the late 1990s. The Tertiary Education Advisory Commission (TEAC) continued the trend in the tertiary education sector in the early 2000s. Lyotard's comment in the opening of this chapter argues that capital's superiority over any kind of critique (the speculative genre) lies in its ability to always have the 'next' word. In New Zealand a great deal of effort was expended in assiduously planning and programming for the future/s without ever carefully examining what had gone before. In the case of science a careful and open reflection on the institutional restructuring and its effects may have been worthwhile and timely as would have been a larger questioning of the logic of the metanarrative of performativity.

However, the seeming fixation with the future (singular) may also have been at least partly related to the impending election and, more significantly, the end of a millennium. Peters and Roberts (1999: 71) write:

The discourses of futurology and of futurisms (in the plural) have always been a defining feature of modernism and modernity and these discourses, it could be argued, seem to become most popular at the end of centuries. Are they millennium products?

By inscribing a grand narrative of progress, conceptualised as monetary wealth based on the globalised commodification of knowledge, the Foresight Project may have done more to discursively foreclose the future than provide insight in to a better one. Its determined reliance on privatised concepts of the future fuelled by science and technology did not discursively allow other ways of imagining futures, except perhaps through the Foresight chat group. The *Bright Future* package (Ministry of Commerce 1999), at least partly spawned by Foresight, was further evidence of the ongoing (and dominating) materiality of the economic genre in research policy. In the hollowed out package there was no room for diversity, different languages, culture, the arts, history, society and most importantly, people.

Over the course of the eventually ill-fated Foresight campaign, MORST was nevertheless successful in intensively circulating what was considered the latest policy thinking – statements about knowledge and innovation. Largely these were a direct borrowing from similar policy statements in similar jurisdictions: Australia and the United Kingdom, and from international organisations such as the OECD (Organisation for Economic Cooperation and Development) and the IMF (International Monetary Fund).

In New Zealand, MORST, firstly through Foresight and then under a new Labour government looking to brand its Third Way policies, became a lead Ministry in policy language games. Despite the demise of Foresight itself, MORST's engagement in the Foresight exercise considerably increased its profile among government ministries. It had constructed itself as a forward thinking, 'innovative' institution which would be useful to the incoming Labour-led coalition also branding its policies as those which would lead New Zealand to a knowledge society. In particular, MORST's promotion of the discourses of the knowledge society, knowledge economy and globalisation constructed the discursive scaffolding for the incoming Labour-led government's meta-policies: the *Growth and Innovation Framework* (Clark 2002) and the *Tertiary Education Strategy 2002/2007* (Ministry of Education: 2002a). The next chapter will consider these.

Chapter Nine

‘Toning’ university research/ers - production and performance for the knowledge society.

... it is truly perverse of celebrants of the Knowledge Society to declare that humanity is on the threshold of a new conception of knowledge that will have to be evaluated on its own emerging terms. After all, those terms emerged long ago, but are only now fully realizable. They can be summed up in the word Positivism; industrial society’s final frontier (Fuller 1997: 76).

In any case, even if the performativity principle does not always help pinpoint the policy to follow, its general effect is to subordinate the institutions of higher learning to the existing powers. The moment knowledge ceases to be an end in itself - the realisation of the Idea or the emancipation of men – its transmission is no longer the exclusive responsibility of scholars or students (Lyotard 1984: 50).

Introduction

This chapter analyses the knowledge discourse and its variants in New Zealand tertiary education policy documents from the end of 1999, with an emphasis on research policy. The discourse had been imported by MORST and Foresight (MORST 1998), given more prominence through the hubris surrounding the launch of *Bright Future* (Ministry of Commerce 1999) and thoroughly mainstreamed in the 1999 election with both major parties opting for the ‘knowledge’ statement in their election rhetoric. By this time the universities (though they may not have agreed) were more than aware that knowledge was no longer considered as an end in itself. Rather the goal had shifted to economic performance and this would be even more clearly articulated by the incoming Labour coalition government. In addition, the rising prominence of MORST with the concomitant sidelining of the universities during Foresight had driven home the point that ‘useful’ knowledge could and would be produced (and funded) elsewhere. Nevertheless, the extensive review of tertiary education by the Tertiary Education Advisory Commission (TEAC) carved a more widely recognised role for academic research: it would now figure prominently in the national economic effort to pull New Zealand back into the top half of the OECD rankings. The received narrative was that the universities would provide the fundamental research which would feed into more applied research in the science system which would eventually turn up as innovative profit-making

products for export. There was also a clear recognition, in the new environment, that high quality academic research was vital for sustaining vibrant learning environments particularly at the postgraduate level. The Centres of Research Excellence (CORES) were to fulfil the first of the roles while the establishment of the Performance Based Research Fund (PBRF) was to satisfy the second.

Michael Peters wrote and delivered the 2000 MacMillan Brown lectures (Peters 2000a; 2000b; 2000c) in the aftermath of the 1999 New Zealand general election. As the title of his lecture series, 'Education and Culture in Postmodernity: The Challenges for Aotearoa/New Zealand' suggested, education in New Zealand was a core focus throughout and Peters engaged theoretically with the education changes in New Zealand under strong neoliberal governments from 1984. The 1999 election had ushered in the first centre-left government New Zealand had experienced for twenty four years (the Kirk/Rowling government was defeated by Muldoon's National party in the 1975 election). Expectations for the new Labour-led coalition government were high as New Zealand felt the overwhelmingly negative effects of fifteen years of neoliberal governance. Peters outlined some of the harsh effects of this period in his first lecture: 'Neoliberalism, Postmodernity and the Reform of Education in Aotearoa /New Zealand' (Peters 2000a) and pointed out that the neoliberal shift in policy and philosophy had been nowhere more evident than in the related areas of education and social policy. However, the shape and outcome of Labour policies (promised to be very different from their predecessors) were still unravelling and it was too soon to make judgement calls on their impact. The Tertiary Education Advisory Commission (TEAC) had been set up in April 2000 and the Commission released its first report, *Shaping a Shared Vision* (TEAC 2000) in July 2000. Peters' preliminary comments were that the Commission repeated ideas and slogans already in wide circulation in the west, and the UK in particular. The twin discursual pillars were *lifelong learning* for the *knowledge society*. The term 'knowledge society' was not fully explored in the first document (TEAC 2000) and any differentiation from the term knowledge economy was not explicated. Peters contended that issues of globalisation and their impact on tertiary education did not receive '... the analysis they deserve' (Peters 2000a: 11). He considered the term 'lifelong learning' to be under conceptualised beyond being identified as a '... key force in human capital development' (Peters 2000a: 16). He agreed, however, with TEAC's emphasis on 'cooperation, collaboration and partnership'. This was in contrast to the previous regime's move to demand driven funding and the dubious promise of

a level competitive playing field for all New Zealand tertiary institutions, public and private alike.

Peters observed that as the worst effects of neoliberalism were felt across the world ‘Governments ... looked to a new philosophy and policy mix – one that preserved some of the efficiency and competition gains but did not result in ... forms of nation splitting and social exclusion’ (Peters 2000a:16). The contours of this new ‘philosophy and policy mix’ are now well recognised. They are generally named Third Way politics (Giddens 1998, 2000) and are associated most closely with Tony Blair’s Labour government in Britain. Peters ended the lecture with a characterisation of the Third Way and its relationship with education, concluding with the damning comment, ‘The underlying concept of education is the dominant conceptual weakness in Third Way politics’ (Peters 2000a:16). He believed that while (lifelong) education had been identified as the key ingredient in building a knowledge society, there was more to be said about education and its links with democracy and its contribution to civil life and education as a right rather than as a privilege. Peters linked his characterisation of the Third Way back to New Zealand where Helen Clark’s Labour coalition was committed to the policy mix. Because education was a central tenet of the mix, Peters suggested that its philosophical underpinnings in New Zealand needed stronger analysis, particularly from the left.

Higher education externalities and economic growth

Following the 1999 election, the knowledge society, a term originally imported through Foresight, became the primary sign dominating New Zealand policy moves in many directions. At the time it operated as a generally beneficial and supposedly uncontested rallying point for Labour initiatives. This was nowhere more apparent than in the tertiary education review by TEAC. The establishment of the Commission was one of the earlier major initiatives of the incoming Labour-led coalition following the 1999 election. In response to accusations that Foresight and the 1997/98 tertiary education review had not taken strong enough account of each other’s sectors, and in the wake of the more integrated but still limited *Bright Future* policies (Ministry of Commerce 1999), Labour placed tertiary education in centre stage. Associate Minister with responsibility for tertiary education, Steve Maharey (2001: 3), announced, ‘The key message is that the tertiary education system can no longer be seen in isolation from the Government’s wider social and economic development initiatives and strategies.’ Maharey noted that during the 1990s ‘the system’ had been too

‘consumer oriented’ in terms of its ‘resource allocation.’ He said that no less than a paradigm shift was required ‘To maximise the benefits of this important investment’:

The focus of the tertiary education system will now be to produce the skills, knowledge and innovation that New Zealand needs to:

- transform our economy
- promote social and cultural development
- meet the rapidly changing requirements of national and international labour markets (Maharey 2001: 3).

While the means may have changed (cooperation, collaboration and ‘hands on’ government compared with competition, incremental privatisation and ‘hands off’ government) the end continued to be economic development. In a continuing economic recession, Labour persisted perhaps even more vigorously in the realm of tertiary education to privilege an economic rationale over social or cultural factors. Significantly, Maharey had moved away from the ‘resourcing’ statement in regards to tertiary education funding and instead recycled the ‘investment’ statement from the science sector. He could have narrated the ‘paradigm’ shift as tertiary education for the enrichment of civil society and for the invigoration of democracy and as an entitlement rather than an investment, but these factors were never emphasised above economic growth factors in Labour tertiary education policy.

The New Zealand Labour government was taking its lead from abroad and particularly the United Kingdom and OECD. The Dearing report (Dearing 1997) had argued through a reworked version of human capital theory for a strong, well-funded (with private contributions), expanded higher education sector as the way to national prosperity. As noted in chapter eight this was enthusiastically endorsed by the Blair government. Of considerable interest in the Dearing report was report number eight on the externalities of higher education (Gemmell 1997). Under an earlier New Zealand Labour government, the Treasury document, *Government Management* (Treasury 1987b) had stated that higher education was purely a private good, implying that there were so few public benefits to a society from higher education that they did not warrant much in the way of public funding. This position was in line with policy developments in the OECD where the organisation argued that ‘the economic contribution of education was better understood by calculating the private rates of return to

individuals or firms, than by data on social investment' (OECD 1989: 12). Human capital theory had evolved from the 1960s when the student was constructed as an economic but also a social and cultural subject and education was considered a site 'of multiple and heterogeneous purposes' (Marginson 1997: 106-107). However in the 1980s and early 1990s neoliberal national policies reconstituted the site of education as the business of economics almost exclusively and the student as a subject of private investment. The Dearing report (Dearing 1997) signalled a shift in this position. Report eight, 'externalities to higher education: a review of the new growth literature' (Gemmell 1997) provided an extensive literature review of the economics literature that had accumulated, especially over the 1990s, on new growth theory. New growth theory associated education with the creation of human capital and the possibilities of education-related externalities. The review concluded that while there was still no clear consensus, there was some evidence that correlated higher education positively with income growth. The new growth theories were influential in positing that higher education may contribute to externalities associated with production (especially knowledge production), in particular through the generation of graduates (and postgraduates, and particularly in science and engineering), and economically profitable research. Surprisingly, perhaps, only the economics literature was canvassed. Views on externalities from other disciplines like education and sociology, discussing, for example, more socialised behaviour arising from higher education, were not included.

However it was no doubt timely for Dearing (1997) to traverse the economics of education/higher education in a higher education policy document because traditionally educationalists had paid little attention to the economics of education or knowledge (Peters 2002). This was despite higher education across the western world having been fundamentally reshaped through policies based on neoliberal economic theory. That educational externalities had to be enumerated through the discipline of economics was a product of Thatcherite neoliberal government which continued to construct post-Thatcherite policies: 'In neo-classical theory, state financing was justified only to the extent of the value of externalities' (Marginson 1997: 107). But then as Marginson goes on to explain, 'externalities' in the end could only be shaped by assumptions and depended on one's theoretical position; they were flexible and could be 'expanded to fit any claim about the contribution of education' (Marginson 1997: 107).

The 1996 OECD report *The Knowledge-based Economy* explicitly drew links between new ‘growth theory’, the term ‘information society’ (Bell 1974), the learning economy (links between education and employment) and ‘national innovation systems’ (university research and national science institutions). In order to achieve an interactive and effective model of innovation (as opposed to a more traditional linear model) which the authors deemed necessary for economic performance, it was considered imperative that knowledge flows between business, government and academia be opened up through an intensification of inter-institutional relationships and communication. Significantly, the report identified the science system, that is, public science institutions as well as research within the universities as key factors in the development of the knowledge economy. As Peters observed: ‘... the report identifies the major challenge as one of reconciling traditional functions of knowledge production and training of scientists with its newer role of collaborating with industry in the transfer of knowledge and technology’ (Peters 2002: 7).

TEAC, knowledge and economic performance

In post-election New Zealand the Tertiary Education Advisory Commission (TEAC) was assembled and got a work programme underway quickly. Four reports were produced: in July 2000, *Shaping a Shared Vision: Initial Report of the Tertiary Education Advisory Commission* (TEAC 2000); in February 2001, *Shaping the System: Second Report of the Tertiary Education Advisory Commission* (TEAC 2001a); in August 2001, *Shaping the Strategy: Third Report of the Tertiary Education Advisory Commission* (TEAC 2001b); and in December 2001, *Shaping the Funding Strategy: Fourth Report of the Tertiary Education Advisory Commission* (TEAC 2001c). Unlike the combination of Ministry of Education bureaucrats and consultants who put together the green and white paper reviews of tertiary education under National, TEAC was distinguished by broad representation and included education academics. Jonathan Boston (University of Victoria) was one of the commissioners. Other education academics were Linda Tuhiwai Smith (University of Auckland) and Ivan Snook (Massey University). Norman Kingsbury (CEO of the New Zealand Qualifications Authority NZQA) was the Chairperson until 8 November 2000. Russell Marshall, ex-Labour Minister of Education, replaced him as Chairperson for the remainder of the Commission’s life. Other commissioners included Tony Hall, a representative from the private education provider sector, Patricia Harris, a scientist from AgResearch (a Crown Research Institute), Hugh Fletcher (experienced businessman and member of University of Auckland Council),

John Ruru (a forestry management consultant) and Shona Butterfield (Chief Executive of the Open Polytechnic of New Zealand). Sir Colin Maiden (ex Vice Chancellor of University of Auckland with management and governance experience) was appointed as a special advisor to the Chair. The Commission travelled with information roadshows throughout New Zealand and consulted widely. Submissions were received throughout the process and were specifically called for after the release of each report.

In 2000 and 2001 media and political discourse increasingly positioned:

1. Education, tertiary education and particularly postgraduate education as key drivers of the knowledge economy.
2. The government as a necessary lead player who should provide coordination and direction for tertiary education.
3. The university as the vital production line generating knowledge workers and knowledge products.
4. Research as the lifeblood of ‘innovative’ knowledge production.

TEAC was both constitutive and productive of the increasingly hyperbolic discourse around the knowledge society. The key phrase *Lifelong learning for the knowledge society*, appeared at the bottom of every page of the first TEAC report (TEAC 2000). This practice was dropped from the remaining three reports, although the fourth and final report of the Commission highlighted the statement ‘knowledge society’ in the Preface, noting: ‘The overall aim of the strategy is to make New Zealand a world-leading knowledge society by providing all New Zealanders with opportunities for lifelong learning’ (TEAC 2001c: vii).

TEAC’s discussion characterising a knowledge society for New Zealand in *Shaping a Shared Vision*, the first report (TEAC 2000), amounted to just three quarters of a page. Given that the whole of the tertiary sector was being mobilised to attain this one future it might have been expected that there would be more information and theoretical discussion about what the term and its conflicting discourses signified for New Zealand. None of the reports moved beyond brief and generalised descriptors to explain the historicity and contesting philosophical strands of the term. As Peters (1997b) had noted, the knowledge society has a number of

different theoretical and philosophical lineages including those constructions of knowledge closely aligned to techno-scientism and the hyper generation of global capital.

The description of a knowledge society in the first TEAC report (TEAC 2000) contended that the Commission's view of the knowledge society was broad and, while encompassing areas such as ICT, the sciences and engineering, it recognised all kinds of knowledge as being important. It pointed out that because of this broad definition all fields of research would be equally valued.

What is critical is how the tertiary education system ensures that each of these areas of knowledge or learning is given the opportunity to develop and support a knowledge society or economy in New Zealand (TEAC 2000: 8).

As the Commission worked through its reports, however, it became apparent that there would be quite different funding outcomes for different fields of knowledge. The development of new research funding structures clearly favoured the promotion of techno-scientific research (Lyotard 1984) above humanities and social science fields. This was evidenced in the final list of Centres of Research Excellence (CORES):

- The Allan Wilson Centre for Molecular Ecology and Evolution
- The Centre for Molecular Biodiscovery
- The MacDiarmid Institute for Advanced Materials and Nanotechnology
- The National Centre for Advanced Bio-Protection Technologies
- The National Centre for Growth and Development
- The New Zealand Institute of Mathematics and its Applications
- Nga Pae o te Maramatanga – The National Institute of Research Excellence for Maori Development and Advancement.

Six of the Centres were related to techno/science in one form or another. Only one out of the seven CORES was related to culture.

In addition, the Performance Based Research Fund (PBRF) appeared to privilege a natural science model of 'doing research' evident in the requirement for external research funding as

one of the three key criteria for research performance (see Ministry of Education and Transition Tertiary Education Commission 2002). How external research funding could figure as an across-the-board measurement of research quality, particularly in humanities, was never explained.

The description of the ‘knowledge society’ in the first TEAC report (TEAC 2000) ended by emphasising how important tertiary education and particularly research would be to the development of New Zealand as a knowledge society and how the new society would in turn impact upon tertiary education:

The development of a knowledge society has significant implications for tertiary education, both in terms of its role, and how learning and research at the tertiary level occur. As knowledge becomes central to creating wealth and improving the quality of life, the ability to acquire, develop and use knowledge effectively becomes essential for individuals and societies (TEAC 2000: 8.).

Dator (2001: 1) refers to this ongoing co-production of images of the future (in this case the knowledge society) and current actions (here, in the field of research and learning): ‘Images-actions-consequences-images ... are in an endless feedback loop through life’. Knowledge, at least knowledge codified in universities, was once seen as central to building characters and minds. Universities were considered to be the cultural and scientific storehouses of a society’s knowledge. When knowledge was constructed as the new mode of production, and primary fuel of economic growth, it in turn shaped what kind of knowledge would be generated. In simple terms knowledge that could be commercialised or at least, made relevant to an ‘end user,’ became more important (and more generously funded) than the advancement of knowledge per se.

Significantly, knowledge itself was never defined in the TEAC reports. When the word was used it signified a taken-for-granted statement that everyone was supposed to already understand. However, given that it was lifted from international documents and often appeared alongside statements about technology and economic competitiveness, it had the feeling of being a kind of ‘international’ knowledge; knowledge that was context-free, without corporeal traces and history, and circulated along computer cables and between transmission stations, across the globe (Roberts 2004). As Lyotard (1984) observes, what is good knowledge in one context may not be good knowledge in another. And acultural

knowledge will not be the best knowledge for invigorating civil society or even local economies. Knowledge, according to Lyotard (1984), depends on culture.

The consensus that permits such knowledge to be circumscribed and makes it possible to distinguish one who knows from one who doesn't (the foreigner, the child) is what constitutes the culture of a people (Lyotard 1984: 19).

Almost certainly culture (and therefore knowledge) cannot be exhaustively mined and treated as a 'standing reserve' (Heidegger 1977) for the economy because the result will be an emptiness in all spheres. Rifkin (2000: 252) suggests:

... culture must be rejuvenated for its own sake and on its own terms because it alone is the source for human values. While a restored culture will undoubtedly benefit the market, it can't be allowed simply to be the market's raw resource.

Rifkin explains also that culture symbiotically depends on place, geography:

All real cultures exist in geography because that's where intimacy takes place, and without intimacy it is not possible to create bonds of social trust and engender true feelings of empathy. Resurrecting and revitalising culture, then, means paying at least as much attention to geography as to cyberspace and to participation in real communities (Rifkin 2000: 253).

This concept was rarely conceded in the New Zealand research policy documents (education and science) which transposed discursial imperatives for action (Foresight, lifelong learning, knowledge society and innovation) from one side of the planet to the other. The Humanities Society of New Zealand (HUMANZ 2000b), however, recognised that this kind of transposition was problematical and undertook a project funded by MORST to consider how a knowledge society might be created in a specifically New Zealand context. Their report entitled: *Knowledge, Innovation and Creativity: Designing a knowledge society for a small, democratic country* (HUMANZ 2000b) was written on the premise that New Zealand could not simply adopt 'some pre-existing model or template' to become a knowledge society (HUMANZ 2000b: 1). The authors emphasised that history and physical location were 'critical parameters for the reflexive development of such a society in a particular place'. In addition, they made the important connection between the term 'knowledge society' and capitalism, noting that in particular, the term foregrounded 'contemporary conditions of globalisation and informationalism' (HUMANZ 2000b: 12).

There was a strong tension in the way the knowledge society was constructed in the TEAC documents. On the one hand (and especially in the earlier reports), the knowledge society was promoted as a more equitable and just society. The logic seemed to be that if New Zealand had a knowledge society it would be better for everyone, although what exactly a knowledge society was, was never described nor was it clear how New Zealanders would know once they got there. These earlier characterisations of the knowledge society seemed to rely on vague utopian images of the future. For example, Recommendation One of the second report reads (TEAC 2001a: xiv):

To achieve an inclusive knowledge society, the government should pursue policies that are:

- open, outward looking, internationally oriented and engaged;
- vibrant, diverse, innovative and imaginative;
- fair, inclusive and democratic;
- informed by the Treaty of Waitangi;
- enriched by our natural and cultural heritage; and
- sustainably prosperous

While it would be hard to argue with these goals, the lack of specifics inspired no confidence as to how the goals might be achieved. Moreover, any possibility that a knowledge society might *not* be better for New Zealand was not entertained by TEAC. The point was made in Peters' third MacMillan Brown lecture (2000c). Knowledge societies with their emphasis on for-profit knowledge may simply represent a more unequal face of capitalism:

Knowledge societies ... theoretically offer 'unprecedented means to empower social actions and to add to the self-transforming capacity of society' [Stehr]. Yet in practice they appear to be highly susceptible to recreating and reinforcing systematic social inequalities and to exacerbating economic and social polarisation (Chisholm 1999: 3 in Peters 2000c: 18).

The term 'knowledge society' and what it might stand for became increasingly narrow in New Zealand as the Labour government began to strategise in a very 'hands on' (as opposed to 'hands together') way for the whole country, dictating what the purpose of tertiary education

should be. The journey to the knowledge society was to be under girded by the government's five high level goals for New Zealand. These goals explicitly prioritised economic growth before other types of social and cultural development in New Zealand. In the third TEAC report (TEAC 2001b: 14) the national strategic goals were stated as:

- Innovation
- Economic development
- Social development
- Environmental sustainability
- Fulfilling Treaty of Waitangi obligations

Innovation seemed an awkward term in the tertiary education context. In the TEAC document it was placed in the prioritised initial position of the five strategic national goals. With the term innovation so closely associated with product development for hyper-competitive global markets, tertiary education appeared first and foremost as a tool for the generation of capital. Along with the statement, 'knowledge society' innovation was also becoming a meta-policy statement under Labour (see next chapter for more detail on this point). Helen Clark's *Growing an Innovative New Zealand* speech in February 2002 (Clark 2002) proposed a Growth and Innovation Framework (GIF) which integrated the educational (especially in terms of high level (postgraduate) skills and university research), research, business and government sectors in a joint framework aimed at building 'innovation' for economic growth.

Significantly, by the time the *Tertiary Education Strategy 2002/2007* (Ministry of Education 2002a) was published, the government strategic national goals had been renamed, rearranged and extended to six, with economic transformation in first place followed by social development, Maori development, environmental sustainability, infrastructural development (new) and innovation falling to last place. Perhaps the privileging of innovation and economic goals had signalled the government's instrumental intentions for tertiary education too strongly.

The fourth TEAC report (TEAC 2001c) was an in-depth account by the Commission of how the tertiary education framework would change and be funded. In the report, research and

postgraduate study were singled out for special attention. The reason given was their importance to the development of a knowledge society:

If New Zealand is to recruit and retain world-class researchers and develop a vibrant and innovative knowledge society, research within the tertiary education system, and especially within the university sector, must be adequately funded (TEAC 2001c: 83).

The university and particularly its ‘top end’ (postgraduate and academic research) became key features of TEAC’s construction of the knowledge future and its new system of production. Universities were central to global competition as producers of knowledge (able) workers (particularly postgraduates). Universities were also key sites (along with private and public research centres) for the production of ‘useful (and often relatively cheap) knowledge’, knowledge which could be utilised to fuel the globally competitive market place.

There was little critique from university management in New Zealand about whether New Zealand should be putting all its resources behind this one future – the knowledge society - and one had to suspect that because the government clearly posited the bolstering of university funding, particularly in the research and postgraduate areas, through the Performance Based Research Fund (PBRF) and the development of Centres of Research Excellence (CORES), academic managers were content to criticise the mechanisms, the means, but were not so interested in the ‘destination’. This contentedness to merely nibble around the edges rather than engage in comprehensive analysis of whether a knowledge society was in fact desirable for New Zealand, is well captured in Steve Fuller’s (2000: 83) definition of the knowledge society:

What advanced capitalism looks like to intellectuals, once they have been assimilated into its mode of production - a classic case of what economists call ‘the internalisation of a negative externality’. Intellectuals specialise in two sorts of activities: moralizing and criticizing, which are typically deployed against the powers that be. However, with the right incentives, they can be just as easily deployed on their behalf. Thus, intellectuals may be made to moralise by appealing to norms that, at the same time function as principles for reproducing the social order.

An article in *The New Zealand Herald* by Professor Tom Barnes (Deputy Vice-Chancellor, Research) at the University of Auckland illustrates this tendency. The article is entitled ‘Funding change step towards a true knowledge economy’ (Barnes 2001: A13). In this

article, Barnes is praising the fourth report of the Tertiary Education Advisory Commission (2001c) and, in particular, the impending introduction of a performance based research fund as a positive step towards a *true knowledge economy*. His only complaint is the level of available research funding which he believes should be substantially increased.

The reader is left in the dark as to what a *true* knowledge economy (as opposed to just your average knowledge economy or a not really true knowledge economy?) might be, as it is not defined for the reader. Since the article refers directly to the fourth TEAC report (2001c), there is intertextual semantic slippage between the knowledge society of the report and knowledge economy in the article. This links the two terms as synonyms for readers. Most *New Zealand Herald* readers would not have read the fourth TEAC report and would therefore have been left with the impression that the report used this term (knowledge economy), also. The other explanation for Barnes's reformulation of knowledge society to knowledge economy is that the construction of knowledge society in the TEAC reports was so similar to Barnes's idea of a knowledge economy that he subconsciously replaced one term for the other without thinking about it.

The latest report of the Tertiary Education Advisory Commission deals with funding. Tom Barnes says the proposal for a performance-based research fund is a step forward, but David Brook says though the report contains radical and fascinating proposals, the shortage of detail is frustrating.

Funding change step towards a true knowledge economy

by Tom Barnes

The fourth report of the Tertiary Education Advisory Commission recommends significant changes in the way tertiary education institutions are financed. Most reaction so far has unsurprisingly focused on sensitive issues such as the student loans scheme and merit-based entry into all degree study irrespective of institution.

However, some of the most far-reaching recommendations lie in the radical changes proposed for the way in which research is financed in our universities.

The report recommends the establishment of a performance-based research fund by which tertiary education institutions will receive research funds from a central pool, allocated according to performance. This is common in other countries and would be a most welcome change for the New Zealand research system.

In the past 10 years, research financing has been plagued by institutional generosity as researchers jockey for position in a highly political and competitive environment. Their motivation to produce new and useful knowledge for the country has been hampered by the distractions of meeting ever increasing political and administrative demands to obtain financing.

The proposed performance based fund would be an excellent start to much-needed reforms.

It is an important step towards eventually achieving a true knowledge economy, with competitive and social advantage based on discoveries made in New Zealand.

As the knowledge wave conference attested, this will be of crucial importance to lifting our country from the bottom quarter of the OECD rankings.

The performance-based fund also supports other key knowledge wave recommendations: that tertiary institutions should aspire to the highest international standards in both research and teaching.

their discoveries will be commercialised before money is made available for the discoverer to be made.

The University of Auckland's experience has been that the rate of commercialisation from fundamental research is far higher than from work using funds targeted strongly at applied work. It is clear that the main driver of successful commercialisation is the quality of the research.

The performance-based research fund will be a valuable new tool to improve this.

quality have compares with international benchmarks. This will allow public financing to be concentrated in institutions where there is the highest probability of a good return on investment.

Thirdly, and perhaps most importantly, the performance-based fund at last recognises the fundamentally important role of research in the universities. It will help to alleviate the present situation where universities ride from year to year on the roller-coaster of rapidly changing research funding policy.

This is compounded by unacceptable

The report proposes that at least \$20 million of "new" money be combined with \$100 million of funds taken from existing Government financing for the tertiary sector to form the core of the performance-based fund. The \$100 million will, in principle, come from the so-called research top-ups which are purported to form part of the Government equivalent full-time student funding formulae.

It should, however, be noted that such funding falls far behind that in comparable universities overseas. For example, overall revenue per student in the University of Auckland is more than \$10,000 behind that in the University of Melbourne.

Over the past five years, fees frozen, combined with equivalent full-time student financing that has not kept up with inflation, have left universities financially constrained. In practice, this leaves little Government funding to support research. Removing \$120 million from the equivalent full-time student subsidy to finance the new performance-based research fund is, therefore, akin to robbing Peter to pay Paul.

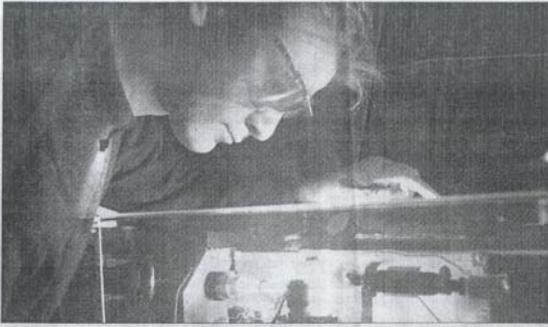
But, we should compare ourselves with international benchmarks to ascertain how much "new" money is required to finance the proposed adequately. Funding to comparable wealth-adjusted levels would allow our research-led universities to run sustainable research programmes to international standards.

For example, Auckland's research revenues would need to about double to be even close to those applying at the University of Melbourne.

If we were to do this for all universities in New Zealand, \$100 million of "new" money would be required in the performance-based fund.

The advisory commission's recognition of the importance of quality research in the universities and the strategies proposed to achieve this are long overdue.

If financing levels can be set appropriately, our research-led universities have a chance of surfing on rather than drowning in the knowledge wave.



RESEARCH RELIEF: The proposed performance-based fund will help to alleviate the present situation where universities ride from year to year on the roller-coaster of rapidly changing research funding policy.

Figure 12: Article by Professor Tom Barnes

New Zealand Herald article by Professor Tom Barnes (University of Auckland) (2001: A13)

The accompanying image gives some clues as to the author's (or at least the editor's) idea of what represents the knowledge economy. The picture shows a man engaging in some kind of

observation of electrical technology (an experiment?) through protective glasses. The man is looking serious. The picture is mostly dark, with the man's face being lit up by the light from the technology. It constructs a stereotypical image of techno-scientific research. One reading of the image would suggest that knowledge in the brave new world of the knowledge economy would be generated by males, science and technology, and that they would be able to light up our world with their developments and discoveries. It does not speak to culture, diversity, 'nature', women or children.

The point could be made that an editor probably chose the image to accompany Barnes's article under a deadline pressure on the spur of the moment because it seemed like a reasonable representation of the story. If this was the case, the choice of image underscores Foucault's point about the capillary action of power and discourses (Foucault in Gordon 1980) and his argument about the rarity of discourse (Foucault 1969). Foucault makes the point that power is at its most effective when it works unconsciously through people (biopower). It literally traverses through them and produces things as a result. In this case the editor produced/recycled this stereotypical image of the knowledge economy, thereby supporting and extending entrenched linkages between science, innovation, technology and capital (and perhaps gender). Other choices were available. For example, the editor could have chosen a piece of artwork, an image of a group of people – or almost anything else. The fact that a male scientist looking at what appears to be an experiment was chosen is significant because it was *not* anything else.

In an effort to avoid the same (often gendered) stereotyping for research, images from the School of Art and Design were foregrounded on the research office website (until the end of 2004) of the Faculty of Arts, AUT (Auckland University of Technology). A favourite of mine was Monique Redmond's 'I never promised you a rose garden' because it subverted stereotypical constructions of research as science, as masculine, as technological and as serious. This image was also chosen for the front cover of the 2001 AUT Faculty of Arts Research Report.



Figure 13: 'I never promised you a rose garden' (Redmond 2001)

Knowledge waves, university competition and dreams of pre-eminence at the University of Auckland.

The New Zealand universities had been increasingly inscribed by government policies throughout the 1990s as hyper-competitive subjects, despite their often vociferous opposition to those policies. Institutional survival would have been difficult in some cases without university managers adapting their subjectivities accordingly. For example, hardly anyone 'approved' of universities advertising (except perhaps for the fleets of newly employed marketing personnel in the universities) yet the argument was that if one university did it then everyone had to. In addition, a new 'competitor' was 'allowed' to enter the university 'playing field', paradoxically as Labour came to power with a call for cooperation and institutional differentiation in the tertiary education field. The Auckland Institute of Technology (AIT) had been lobbying the National party coalition government throughout the latter part of the 1990s for university status and was granted the institutional redesignation in 1999 to come into effect on the 1st of January 2000. The CEO, John Hinchcliff, repeatedly argued that the reason AIT needed university status was to attract more international students. While the seven existing universities vociferously objected to AIT becoming a university for a

number of reasons (for example, inappropriate ratio of degree to subdegree courses, lack of substantive research, paucity of staff with PhDs) Hinchcliff's 'competition' argument was never contested by the other universities, presumably because by this time, it formed part of their own rationalities for what constituted a university.

Progressively more embodied ways of behaving competitively, learnt over more than ten years, would quite possibly take as long to reconstitute. Just because the new Labour coalition government and TEAC appeared to be calling for less destructive competitiveness between government educational institutions (particularly the universities) it was not going to happen overnight. Then there was the question of whether full cooperation really was what was being called for. The demand-driven student funding regime was to remain in place; 'export education' (the term was first coined in New Zealand in *Government Management* (Treasury 1987)) and its concomitant competition for international students was given a strong fillip through TEAC; and private training 'providers' were to continue to receive public funding for 'delivery' of courses. In fact, academic research was the one area where there was still little in the way of explicit inter-institutional competition. Even by 2000 there was no easy way of accurately comparing university research reports, especially as reporting of research by academics themselves was notoriously unreliable. While a small pool of New Zealand academic researchers (mainly in the sciences and health) had increasingly become, along with scientists in the Crown Research Institutes, entrepreneurial subjects, applying for (and in fewer cases) winning contestable funding for large research projects through FORST, Marsden and the Health Research Council, this was not routine professional behaviour for most New Zealand academics. The introduction of the CORES and PBRF would radically change this situation, installing as they have hyper-competitive and individualistic behaviours in the arena of academic research in New Zealand.

The University of Auckland, under the stewardship of a newly appointed Vice Chancellor John Hood, seemed to take the election to Prime Minister of an alumni and former academic staff member (junior lecturer) as a signal to move forward in an imagined race to national university preeminence. Ostensibly in an effort to kick start economic performance in New Zealand, the University of Auckland co-sponsored with the government a high profile conference in August (1-3) 2001. University of Auckland Economics Professor, Tim Hazeldine, noted that it was embarrassing for the Vice Chancellor of the University of Auckland to share the rostrum with the Prime Minister when the universities were so under

funded (Philp 2001). Other universities were somewhat chagrined at this apparent favouritism on the part of the new government. This was especially so, as it was followed soon after by a promise of \$25,000,000 towards a new business school if the University of Auckland could raise donations to match.

In keeping with the ubiquitous knowledge discourses in the country at the time, the co-sponsored event was entitled 'Catching the Knowledge Wave' conference. The conference hosted a number of international speakers as well as expatriate New Zealanders whose agenda was to work out how New Zealand might begin to work its way back up into the top half of the OECD rankings, meanwhile stemming an exodus from New Zealand of educated New Zealanders, as well as attracting skilled New Zealanders back to the country. One sceptical commentator suggested the Knowledge Wave advocates were old neoliberal supporters dressed up in new clothes:

My difficulty with the Knowledge Wave is its advocates. They're largely the same narrowly focussed individuals responsible for turning New Zealand into a disparate collection of dysfunctional communities and individuals Whistling up the country's political and industrial high flyers may result in huge growth and great wealth (although they have been noticeably unsuccessful even with that limited agenda), but even if we manage to catch up with the nations much higher on the OECD list, how well do growth and wealth stack up against the measures of human happiness and the state of the environment (Ward 2001).

Part of the problem for the Labour-led coalition government if it and New Zealand were going to ride a 'knowledge wave', was the ongoing exodus of educated New Zealanders unimpressed with New Zealand's economic performance, relatively high unemployment and low wages at the end of the 1990s. This so-called brain drain effect took up considerable media space during 2000 (see, for example, MacDonald 2000; Revington 2000), particularly since Helen Clark had begun to speak of nationhood and cultural revival soon after the election. She even called on expatriate New Zealanders to come home and join the national reconstruction. Meanwhile, some media pundits questioned the wisdom (brains) of those leaving. An example of this sentiment is expressed in the *New Zealand Listener* cartoon below.



Figure 14: 'Brain Drain' cartoon

The New Zealand Listener cartoon lampooning those leaving New Zealand, 21 October (2000: 10).

The New Zealand Herald played its part in the 'hands together' approach and gave extensive positive coverage to the Knowledge Wave conference and its participants. The paper continued to support and co-brand the knowledge wave for at least a year afterwards by accompanying any news stories relating to economic growth with a small symbol of a wave next to the headline. Occasionally *The New Zealand Herald* did provide stories which critiqued the idea of the knowledge wave and its ongoing rhetoric but these were usually reporting the views of others rather than critical pieces by its own journalists. The lack of robust critique was highlighted by Matt Philp (2001) from *The New Zealand Listener* who acerbically observed: 'It's hard to argue against knowledge'. While media and academics had been advocating a more cohesive approach to policy, to have government, academia and the media working so seamlessly together under the one knowledge statement left little rhetorical space for critical comment.

The August 2001 Knowledge Wave conference coincided with the release of the Royal Commission report on Genetic Modification (2001). The third TEAC report, *Shaping the Strategy* (TEAC 2001b) appeared in the same month. For *New Zealand Listener* editor Finlay MacDonald the conference and the Royal Commission report seemed to have a certain symbiosis, concerned as they both were with embracing '... the new information-based economic opportunities of which biotechnology is a major example' (MacDonald 2001). This

was politically underscored a few months later when Prime Minister Helen Clark launched the national innovation framework and announced that biotechnology would be a key area of focus for New Zealand. Biotechnology would also be a major election issue (the debate revolved around whether the moratorium on the release of GE organisms into the New Zealand environment should be lifted in October 2003 or not). Macdonald's editorial suggested that the knowledge wave rhetoric was a variation on the reforms and restructuring New Zealand had experienced over the previous fifteen years:

As the knowledge wave crashes on our shores ... let us hope that in our eagerness to catch it we haven't entirely abandoned what rudimentary intelligence we do possess. The same cheerleaders – media, pundits, assorted pompous windbags – who danced for the failed 'reforms' of the 80s and 90s are now chanting about the benefits of biotech and 'the knowledge economy'. In a land well used to social and economic experiments, it was probably inevitable that the scientific version should occur (MacDonald 2001: 7).

Research policy in TEAC four

The recommendations finally developed for research in the Tertiary Education Advisory Commission's fourth report, *Shaping the Funding Framework* (2001c), released in December 2001, outlined a new system of arranging research in universities. The policies favoured research 'concentration'. This was instead of the oft-derided, rather more laissez faire policy of 'letting a thousand flowers bloom' – many researchers following their own research agendas. The strategy was to be achieved through the establishment of Centres of Research Excellence (CORES) (the name and concept of which harked back to recommendations in the Watts report (Watts et al 1987)), a split in the funding of research and teaching, strong accountability through a detailed, digitalised reporting system, and the privileging of a natural science model of doing research (collaborative, predominantly project-based and externally funded).

The key research policy points in TEAC four (2001c) were that:

1. Research and tuition money would be largely unbundled with increasingly more research funding being directed through a Performance Based Research Fund (PBRF). Money returning to institutions through the proposed mixed model PBRF would be calculated on:
 - The level of research activity of staff

- Research degree completions
 - External research income
2. Teaching need only be informed by research at the postgraduate level.
 3. So-called centres or networks of research excellence would be established to foster and fund internationally reputable research teams.

While there was a strong recommendation for increased research capability in postgraduate programmes, the report suggested relaxing the requirement for staff teaching at undergraduate level to be involved in research. This signalled a move away from a key distinguishing feature for universities which was research-based teaching at undergraduate level. It also put at risk New Zealand's international university reputation (Hinchcliff 2002). Moreover, the recommendation threatened to reduce the capability of universities to fulfil a key legislative requirement: that they undertake a critic and conscience role in society, as fewer staff would be expected to be involved in research, in effect reducing the critical research mass of the country.

The proposed strategic concentration of research funding and activity at the postgraduate level along with an emphasis on greater accountability and efficiency through PBRF reinforced a certain 'managerialist' construction of research, where the government (through Ministry of Education and then the fledgling Tertiary Education Commission) had become the 'manager' of the TEIs (Tertiary Education Institutions) and the TEIs were managing their academics in order to squeeze greater research outputs.

The intrusion of corporate ideals into the running of the universities – the teeth grinding acronyms, the movement towards 'efficiency and accountability', the celebration of individual enterprise – is only a symptom of effects visible globally ... (Levine and Kaplan 1997: 13).

In addition, having to take account of external funding within the PBRF formula would be an obvious problem for humanities and social science research, which did not attract the same proportion of government research funding, did not have the linkages with private industry, nor a tradition of seeking external research funding. As de la Campa (1997: 76) observes:

The academy, increasingly dependent on the scientific model that equates grants with research value, now asks humanists to openly embrace the

rigours of marketability: a constant stress on funding, grants ... links to regional economies and the increasing commercialisation of professional roles.

Moreover, the received notion that 'quality', and so-called 'useful/relevant' research could only be produced by those working in the most well-funded, high status sections of the system (PBRF A grades, postgraduate sector and Centres of Research Excellence, according to TEAC) reinforced the stereotype of the elite, professionally correct researcher churning out prestigious papers, too busy to turn a hand to less 'valued' outputs such as policy submissions, course handbooks and widely read newspaper articles. In an explication of the dynamics of a knowledge society, HUMANZ noted that an important condition for a knowledge society was exactly this transcoding from academic texts to those more suited for popular reading:

The increase in expert knowledges needs to be balanced by the transcoding of these knowledges into forms of language and modes of dissemination, which permit wide diffusion of ideas and concepts from one knowledge domain to others. Education and media organisations have a principle responsibility for this work (HUMANZ 2000a: 6).

Certainly, research policy emanating from TEAC four (2001c) actively worked against encouraging the wider educative responsibilities of academics.

Moreover, an obvious problem linked to counting research degree completions in the PBRF funding formula was that academics and departments would focus on enrolling 'low risk' research students, tending to screen out people who might initially be perceived as 'too hard' to get through to completion. This might include single parents, English as additional language speakers, non-Pakeha, lower academic achievers, people in full time work - all of whom might well be more able to create truly differentiated knowledge because of the very differentiated cultural and tacit knowledge they would bring to codified academic enquiry (Hodgson 1998: 419 in HUMANZ 2000a: 26). This idea also links with James Gee's (1996) argument (discussed in chapter two) that real innovation and resistance comes from 'outsiders' and marginal members of a discourse as they struggle to attain the new metadiscourse. As they are changed by the taking on or partial taking on of a new discourse, the discourse in turn is differently produced/reconstructed through their work. Without this infusion of different discourses, research and higher education are caught in a trap of knowledge reproduction rather than new knowledge generation. Lyotard (1984) has argued that the break up of metanarratives in western societies has been principally led by the

splintering of the language games of science, in particular (this is our ‘reality’). Today the multicultural and multilingual world in which we all live is comprised of an unknown number of language games constituting an equally unknown number of petit recits (small stories) through which people’s subjectivities are constituted. It therefore seems ethically untenable and possibly dangerous to restrict the codified production of knowledge to an elite group of favoured individuals who will find it easiest to complete research degrees within PBRF fundable timeframes.

Another research policy suggestion developed in the earlier TEAC reports and fully articulated in TEAC four (TEAC 2001c) was the development of strategic Centres of Research Excellence (COREs). The ostensible reason for the COREs was that New Zealand, because of its size, needed to ‘pick winners’ in order to have any hope of developing strategic world class research capability. TEAC’s recommendation was a two strand system where Model A COREs would concentrate on ‘world class research at the creation/discovery end of the spectrum irrespective of discipline’. Model B COREs were also supposed to be working at a world class level but would incorporate additional elements of:

... leveraging and lifting private sector investment in research and development, enhancing collaborative networking between research providers and users; improving the uptake of research findings (including commercialisation); and focussing upon the nation’s strategic goals, not only in terms of economic development but also social development and environmental sustainability (TEAC 2001c: 103).

In practice, the government moved quickly to establish the COREs as a halfway house between the two models. This development underpinned the notion of research hierarchies where only the most prestigious, star researchers would gain substantial funding (fifty three million dollars between 2002 and 2006) (Ministry of Education 2002b: 4) and therefore a strong research voice. As Lyotard (1984: 45) notes:

No money, no proof – and that means no verification of statements and no truth. The games of scientific language become the games of the rich, in which whoever is the wealthiest has the best chance of being right. An equation between wealth, efficiency, and truth is thus established.

The move to put new money into high level research concentration was an interesting one in a climate where New Zealand still seemed to be in an economic quagmire. The TEAC reports consistently put forward the view that if there was not enough money for everyone in the

higher education sector to be doing research then perhaps it should be reserved for the postgraduate level only and yet 'new' research money was quickly made available for research even higher up the research hierarchy with the establishment of the COREs. However, any move towards a knowledge society might best be served by concentrating on the lower levels of the education system, at the undergraduate and diploma level, because it is people with this level of education that make up the majority of the workforce (Hinchcliff 2002; Fuller 2000). The channelling of new scarce university research money into nationally strategic research (in the COREs) when approximately \$450 million dollars already went in that direction through vote: RS&T seemed to change the fundamental purpose of the education sector. As the HUMANZ submission to TEAC pointed out, tertiary educational institutions (universities and polytechnics) were educational institutions not Crown Research Institutes (HUMANZ 2000a).

Other research policy emphases in the TEAC four document included explicit calls for universities to diversify their funding sources, particularly through developing links with industry and business. Such a policy imperative was aimed at creating the knowledge flows between the universities and private industry that were advocated through, for example, OECD reports on how to establish a knowledge economy (OECD 1996). A key suggestion and one underpinned through the PBRF requirement for external funding was that university researchers should be actively seeking commissioned research contracts and engage in other entrepreneurial activities. The report concomitantly advocated more private sector investment in New Zealand tertiary education, not through increased taxation but through direct contributions, thus giving more say to the private sector as to how universities should conduct education and research (TEAC 2001c). As a result of these kinds of calls, the ability of the government to assure academic freedom in government-sponsored business/university (research) partnerships was questioned by the Association of University Staff National President, Grant Duncan. The AUS's press release stated:

... the published goals and criteria for Cabinet approval of funding for (university and private enterprise) partnerships say nothing at all about academic freedom, scientific rigour or critical enquiry "Mr Maharey's framework for approval does not ensure that his government's drive to commercialise university funding will in practice uphold the values that are crucial to the university's role in the advancement of knowledge ..." (AUS 2002: 1).

An area that potentially impacted on constructions of research was the strong support in the TEAC review for tertiary education as an important export industry for New Zealand:

The country as a whole gains significantly from the export-education industry. For instance, the government would gain \$125 million in GST alone from a \$1 billion industry (TEAC 2001c: 142).

However, the commission needed to distinguish between internationalisation of education and the liberalisation of international trade in education and research activities (Kelsey 2000). Kelsey (2000) noted that successive international trade agreements already regarded education and research in New Zealand as commercial products which could be traded internationally. Ramifications for research were that in such a milieu, pressure would be put on academics to engage in only commercially tradeable, profitable and quick-to-market products and to train their research students in the same.

In fact there was a major contradiction in the government's tertiary education strategy which may have been a direct outcome of the Third Way philosophical and policy mix. TEAC's message to New Zealand publicly funded educational institutions was to collaborate and cooperate. In the meantime the export education strategy saw neighbour universities competing vigorously in foreign and domestic markets for students. For example, the University of Auckland as part of the UNIVERSITAS 21 consortium was offering distance courses over the internet to students around the world, as was its near neighbour, AUT, through the Global University Alliance. Also, both universities were vying to attract international students to New Zealand and often from the same international markets (e.g. China, Malaysia, Korea). This philosophical tension between 'education for nation building' and 'education as a commodity', to be bought and sold on the international market, was not addressed in the TEAC review.

Tertiary Education Strategy and PBRF

The rhetoric of the government policy document which responded to TEAC, *Tertiary Education Strategy 2002/07* (Ministry of Education 2002a) linked tertiary education even more closely with economic performance. In this introductory paragraph of the second chapter of the *Tertiary Education Strategy*, 'The New Zealand Context: Our Development as a Prosperous and Confident Nation' the reader is left in no doubt as to the purpose of tertiary education in New Zealand:

The world's economy is undergoing significant change, with an increasing emphasis on the creation and application of knowledge as the foundation for prosperity and social inclusion. For New Zealand, the development of a prosperous and confident knowledge society must build on this nation's uniqueness and its strengths. To create, market and sell high-value products and services will require a strong focus on the global market place, and sophisticated new skills and knowledge. It will also require a culture of continuous inquiry, innovation and improvement – and of risk-taking and entrepreneurship (Ministry of Education 2002a: 10).

Thematising the introduction with 'the world's economy' highlights the economic focus of the chapter. The world economy is apparently dependent on 'the application of knowledge'. The reader has already learned that tertiary education is now a vital ingredient in the means of production. The repetition of the root 'prosper' in the first two sentences i.e. prosperity (sentence 1) and prosperous (sentence 2) as well as their initial position prior to the conjunction 'and' in each case, serves to highlight again, the economic focus for tertiary education. The juxtaposition of sentences two and three sets up an equivalency between 'the development of a prosperous and confident knowledge society' and 'To create, market and sell high-value products and services will require a strong focus on the global marketplace, and sophisticated new skills and knowledge'. So, in the government's discourse the development of a knowledge society amounted to the creation, marketing and selling of high-value products for the global marketplace. Above all, research needed, according to Labour, to be innovative and therefore contribute to New Zealand's economic growth.

Difficulties with this position have already been enumerated in this thesis but can perhaps be restated here. By suggesting that all or most (even a great deal of) academic knowledge production should be harnessed for national economic gain the *Tertiary Education Strategy* (Ministry of Education 2002a) missed a number of crucial questions.

1. Universities are one of the few institutions in democratic societies that have the diverse intellectual resources to be able to speak to power over a wide range of issues. Can they be said to speak to power when they are also charged with speaking for power (Fuller 2000) (by carrying out large amounts of contractual research work for private enterprise and government interests)?
2. Does the trickle down effect of patenting and other knowledge privatisation and commercialisation strategies inside universities benefit the bulk of the citizenry or are

most profits carved off and circulated overseas where patent-based products are manufactured (Fuller 2000)?

3. If universities are heavily involved in the generation of 'for profit' research should they really be tax exempt?
4. What is the effect on knowledge development within disciplines when energy is mostly expended on contractual project-based work? How does university teaching develop under these circumstances?
5. To what extent is money meant for teaching programmes and academic-initiated research subsidising research for the private sector?
6. What knowledge generation and recovery (for example indigenous knowledge) is forfeited by placing all the research eggs in the national economic development basket?

None of these issues were canvassed in the *Tertiary Education Strategy* (Ministry of Education 2002a). Specific research policies to flow from the strategy were the establishment of the seven Centres of Research Excellence (CORES) and the Performance Based Research Fund.

Investing in Excellence: The Report of the Performance-based Research Working Group (Ministry of Education and Transition Tertiary Education Commission 2002) was released in December 2002. As Roberts (forthcoming 2006: 6) observes, 'The PBRF process, far from disrupting the language of neoliberalism, has played a significant role in cementing it more firmly in bureaucratic and institutional consciousness.' Indeed the title of the report managed to pinpoint rather accurately how the PBRF would constitute the lives of New Zealand academics for some time to come.

The 'investment' statement was still relatively new for tertiary education. It had not appeared in the 1998 white paper (Ministry of Education 1998) for example. As explained earlier in this chapter, however, Labour had caught up with international thinking on the centrality of tertiary education and particularly research for fuelling economic growth. If one expected a profit or payoff in the form of specified outputs, then one may well make an 'investment' in tertiary education rather than just 'fund' or 'resource' it. In addition, using the word/statement 'investing' instead of 'funding' directly mimicked the language used by MORST in its

descriptions of how it approached funding in the science sector. *Investment* constituted and thematised a commercial context for PBRF. Those deemed to be higher quality researchers would represent higher ‘value’ (better ‘investments’) for their universities, producing more value ‘able’ research outputs.

Rather than investing directly in research, the title stated that the government would be investing in ‘excellence’. The noun ‘excellence’ in this case is an ellipsis of the nominalisation, ‘excellent research’. The trouble with a word like ‘excellence’ as Bill Readings (1996) points out is that it has no obvious referent and can be equally well (if not efficaciously) employed to describe a car park as a researcher or a research ‘output’. In a recent interdepartmental series held at the University of Auckland Professor Nicholas Tarling noted that fast capitalism gurus Tom Peters and Robert Waterman developed concepts such as excellence ‘drawing on studies of IBM, Walmart, Hewlett Packard and General Electric’, not universities (Tarling 2005). The PBRF Working Group (Ministry of Education and Transition Tertiary Education Commission 2002: 7) had nevertheless developed their own conclusions as to what factors constituted research excellence and these were heavily laden with references to knowledge. The PBRF Working Party pointed out that while ‘... the production of well respected articles, books and other forms of research output ...’ (Ministry of Education and Transition Tertiary Education Commission 2002: 7) were obviously measures of excellence so were the following activities: ‘... the production and creation of leading edge knowledge; the application of that knowledge; the dissemination of that knowledge to students and the wider community; supporting current and potential colleagues (e.g. postgraduate students) in the creation, application and dissemination of knowledge’ (Ministry of Education and Transition Tertiary Education Commission 2002: 7) . The knowledge statements lexically referred back to the first sentence of the Ministerial Foreword by Steve Maharey: ‘Knowledge creation, application and dissemination are the lifeblood of the knowledge society’ (Ministry of Education and Transition Tertiary Education Commission 2002: 2). The anaphoric referencing (referring backwards) left no doubt that research, including research in the university, had moved to centre stage in the government’s strategy for lifting economic performance.

That the fund (PBRF) was to be thematised by the statement *performance* suggested that this (performance) was what mattered rather than the nature, reception or quality of the research generated. Lyotard (1984) argues that the metanarrative of performativity now governs many

life forms in the western world, replacing earlier metanarratives of emancipation, rationality and belief in a life force (usually Christianity). He explains how the performativity metanarrative derived from the linkage between science and technology and the concomitant requirement for profit. A surplus had to be extracted from each scientific development so that money could be gained in order to buy the technology for the next scientific endeavour. While this feature of the natural sciences (performativity) has extended to the status of a de facto metanarrative for western society (improved efficiency as a *raison d'être* for action), the humanities and social sciences would have largely (although certainly not entirely) seen themselves as sitting outside it. There were university and professional expectations and even international peer pressure to engage certain levels of inquiry and publication but not specified levels of 'performance' for humanities and social sciences that had to be maintained. Through PBRF's requirement for specified levels of performance a natural science model of (literally) 'doing business' (Fuller 2000) would be carried across to completely different knowledge domains.

Moreover, the trouble with performance is that it is contradictory, as Lyotard explains:

The logic of maximum performance is no doubt inconsistent in many ways, particularly with respect to contradiction in the socio-economic field: it demands both less work (to lower production costs) and more (to lessen the social burden of the idle population) (Lyotard 1984: xxiv).

This kind of contradiction will become evident in the New Zealand universities as research time is costed in more and more detailed ways. For example how much does a 'top four' 'quality assured' 'output' cost to generate and how much does the university get back in terms of return in both funding and reputational gains? Presumably someone will try the calculation and then attempt to put it to work. Academics and especially less value 'able' ones will be pushed to 'produce' their 'outputs' in less and less time. Certainly they will be expected not to waste time (time is money). However, the time involved is not an easily calculable equation. An idea may spring to mind over dinner, while hanging out the washing or in the middle of a meeting. Lyotard (1997 :5) captures the futility of trying to equate time, money, thinking and creativity in his fable 'Marie goes to Japan':

In the shower, Marie remembers that their prof was explaining to them that capital is not *time is money*, but *money is time*. The good stream is the one that gets there the quickest. An excellent one gets there almost right after it's left. On radio and TV, they call it real or live time. But the best thing is

to anticipate its arrival, its 'realization' before it gets there. That's money on credit. It's time stocked up, ready to spend, before real time. You gain time, you borrow it. You have to buy a *word processor*. Unbelievable, the time you can gain with it. – But what about the act of writing? – You can write faster, page layouts, foot notes, corrections, you see? – Poor Marie, you won't get rich, you like scribbling on your piece of paper, too bad for you. You are a slow little stream. You will be passed by fast little streams. Of expeditious culture. It suffices to die before you become ridiculous. She tells herself that thought takes time and there's nothing you can do about it. Or what in general they stupidly call creation. That doesn't much resemble streams. Ponds, rather. You flounder in them. It goes nowhere, it's not happy, not communicative. Do you remember how Don works? Oh! Not all shut in, like a monk! But still elsewhere completely. His friends come to see him in his country dive, he greets them politely. They tell artist stories. You can never figure out if this penetrates his brain or not. He says almost nothing about his work. And then, one day, in a gallery, there's an exhibit of his: a series of fifteen large paintings, or fifty sketches. Conclusion: the true streams are subterranean, they stream slowly beneath the ground, they make headwaters and springs. You can't know where they'll surface. And their speed is unknown. I would like to be an underground cavity full of black, cold and still water.

That the system for categorising and ranking academics and by association, universities and other participating institutions was named a 'fund' (rather than a system or programme, for example) gave it an economic, contestable and thus marketised flavour and constructed it as not dissimilar in function or kind to the Marsden Fund and the major science funds managed by FORST. The PBRF architects did not go so far as to call it an investment fund as they had for science although as noted above the two statements were co-located in the title of the key policy document: *Investing in Excellence: The Report of the Performance-Based Research Fund Working Group*. In the case of PBRF, universities would be competing for funding based on the assessed quality rankings of their researchers, the number of postgraduate research degree completions and level of external research funding. This differed from other research funds which were contested on the basis of project type and researcher academic track record. Nevertheless the title suggested that PBRF was similar in that it was one more 'pot of money' for research. Certainly it was more identifiable than the money that had previously been bundled with teaching. One could now see what one was getting for one's money and one could withhold money or take it away completely if performance was not up to the mark.

The research that academics were to produce would no longer be described as presentations, publications, books, exhibitions or the range of other ways research was circulated in the public sphere. All types of research activity would be firstly captured under the one statement: ‘research outputs’ and then broken down into further categories. The word ‘outputs’ had been routinely used in FORST discourse (policy documents, face-to-face conversation and public presentations) since the early 1990s restructuring. At FORST, *outputs* had described the classes of research (output classes) which would be funded. The statement had discursively signalled the policy shift from bulk funding of institutions (like the former DSIR) based on forecast budgets to funding final research ‘products’ (e.g. patents, academic papers arising from specific research programmes). However from the late 1990s FORST had tended to move away from *outputs* towards the less definable, broader statement *outcomes* in a recognition of how counter productive and inaccurate very narrow measures of efficiency and quality could be. *Outputs* had first been used to describe university research in *Government Management* (1987), a little later in the Hawke report (1988) and also in the Terms of Reference for the PSRWP (1989). However, until *Investing in Excellence* (Ministry of Education and Transition Tertiary Education Commission 2002) was published, *outputs* had not been employed in national policy documents to describe academic research.

Internally though, universities in their own research accounting systems had used *outputs* for some time. Certainly in the newest university, AUT, the statement had been routinely used to refer to academic research since the mid 1990s. The word was especially appealing to university accountants who had little understanding of the complexities of academic research yet regularly had to include accounts of research performance in annual reports. Counting research *outputs* was an easy way of showing increased research performance without having to understand anything of the research (and research quality) involved. Working with Lyotard’s concept of performativity, Marginson (1997: 120) describes input-output systems as being firmly entrenched in 1980s style modes of managerialism, where:

...economics met managerial reform. The input-output conception of education fitted the positivist and linear conceptions of organisational design that dominated mainstream management reforms in the 1980s. In these conceptions, organisations were understood as stable sub-systems with defined boundaries, separable from their external context, while subject to determination from “outside” or “above” (that is, subject to management of the orthodox hierarchical kind).

In tertiary education the managerialist idea was that one could simply demand ‘more outputs’ if performance was flagging without needing to attend to the delicate and complex (and expensive) business of building a vibrant and engaged research culture. That what had become almost an anachronism and a somewhat coarse statement (too instrumental, counterintuitive) by the early 2000s in other policy circles (science for example) was picked up and recycled through the PBRF, seemed to say everything about the theories underpinning the drive for accountability in New Zealand academic research.

It was perhaps surprising that the designers of PBRF saw no irony in the fact that their new system which would effectively split a large proportion of teaching and research funding as well as subject every degree teaching academic in New Zealand to a digital accounting of their research was similar (in spirit if not in detail) to what had been proposed in the Hawke Report (Hawke 1988) and the 1998 white paper (Ministry of Education 1998). Those moves had been vociferously and successfully fended off by the universities at the end of the 1980s and 1990s, yet reappeared largely *with* the sanction of the universities in 2002. Perhaps it was because by this time the universities’ own styles of management had been discursively reconstituted and conditioned to accept the enormous policy shift. Tarling (2005) reflected that what the universities never fully recognised as a threat to their very being was ‘... the implications for the internal government of the universities of the complex of notions surrounding the market approach’. In particular he was referring to the strong and ever-increasing impulse towards managerialism inside the university. University managers and indeed many academics were not immune to the discursive power of neoliberalism. They had been reconstructed over fifteen years to new cultures of accountability, line management, funding restrictions and increasing expectations that the private sector would be involved one way or another in university life. Many used the language of neoliberalism in their everyday working lives because it had become difficult to think how else things might be expressed viz: outputs, provision, investment, innovation system, delivery, tertiary education provider etc. Moreover, by the 2000s, academics were more accustomed to continual surveillance by university managers in the form of annual research returns, individual development plans and closely monitored workload documents. Certainly, many were aware of similar systems in like jurisdictions such as Great Britain, Australia and Hong Kong. By 2002 it seemed as though many expected a performance appraisal system for research to be implemented. Perhaps any worries over PBRF in the universities were mitigated by a government

committed to higher research funding levels and a recognition of the importance of academic research as the central pillar of national economic performance.

The PBRF signalled a new disciplining language game for New Zealand academics still used to working with considerable independence. Their research activities were finally to become fully accountable (one senior manager in my own university was heard to say that he would now be able to see whether staff were rearranging pot plants on the deck on their research days at home). But if academics were to perform who would they perform for? Their managers (research managers?), who did not do research (too busy managing)? For the staff at the newly established Tertiary Education Commission (TEC), many of whom did not even have postgraduate qualifications let alone any experience in research? Academics were used to having their research judged by their peers and to some extent expert panels would allow for this but only through the mediated gaze of the Tertiary Education Commission (TEC).

In having such detailed as well as digitalised knowledge of the research sector - the input and collection of 'data' was to be managed through a complicated electronic data system - the government would set up a new power relation with both the universities and individual academics. For the first time in New Zealand, academics and their 'outputs' would be on view for monitoring and tracking at the push of a button. Foucault (Foucault in Gordon 1980) has argued that modernised liberal systems have two aims. The first is to increase (the number of) subjected forms as well as 'to improve the force and efficiency of that which subjects them' (Foucault in Gordon 1980: 104). With PBRF, the government shifted its gaze from the universities (and a few other research producing institutions) to academic researchers (even to their individual research outputs), thus hugely increasing its number of subjected forms. Through a few keyboard strokes the new Tertiary Education Commission (TEC) would be able to call up detailed research data on any participating academic in the country (and those not participating were already categorised by default as being research inactive). On view would be all the research 'outputs' that an active researcher had published during the time period, the research relationships that person had engaged in (through the 'contribution to research environment' (CRE) category)) and how much esteem (through the peer esteem (PE) factors) they were supposed to be held in by their peers (ironically, recorded by themselves). As PBRF becomes entrenched over time the entire, detailed research careers of individuals will be available to TEC. The force and efficiency of a power 'full' digitalised system through which all data is recorded and aggregated is an efficiency dream. Again in my own

university, the logic of linking the PBRF database up with the human resources database was only scuttled after some discussion and convincing that it was not appropriate (if not illegal).

It seemed ironic that the most disciplining system New Zealand academics had ever experienced was introduced by a government purporting to have left the old style modes of competition and efficiency dictates behind and to have moved into a supposedly enlightened era of collaboration and capacity building in higher education. Certainly, the Labour-led coalition government had enthusiastically developed the PBRF as both a way of encouraging higher quality academic research in New Zealand and funding academic research separately from teaching programmes. The intention was to bolster research in the universities. However, one could not help thinking that in the hands of a government who thought of research more like that described in *Government Management* (Treasury 1987), an entrepot activity that could just as easily be carried out by other organisations or as something that might only be 'allowed' if it was supported by 'external funding', any notion of a symbiosis between research and teaching as the two sides of the knowledge coin (Lyotard 1984) could rapidly be relegated to history.

Even if this extreme situation did not arise, the unbundling of academic work into clear categories of teaching and research would also construct different academic and academic management subjects: those that would see teaching and research as two distinct, even unrelated activities. The new system lent itself to a competitive trade in highly ranked research staff as well as the redesignation of researchers with low research productivity to assistants, tutors or non-degree teachers. Indeed the *Times Higher Education Supplement* recently ran a story describing just such a scenario in the United Kingdom: how 'superstar' researchers were being given special treatment and low or no teaching loads in order to be even more productive in readiness for the 2008 Research Assessment Exercise (RAE). Meanwhile others were being put on teaching only loads or being denied access to research facilities (Lipsett and Demopoulos 2005). This type of game playing by universities will result in undoing the teaching/research nexus in universities. As in the Fordist production lines of automobiles, knowledge production and its dissemination will be disaggregated. Lyotard observes: 'The old principle that the acquisition of knowledge is indissociable from the training (*Bildung*) of minds, or even of individuals, is becoming obsolete and will become ever more so' (Lyotard 1984: 4).

PBRF in its detailed portfolio requirements, guidelines and scoring system constructed a very particular researcher subject who would have to 'perform' in certain ways to attain certain grades. For example, an international level of activity and reputation needed to be demonstrated and 'proved' for someone to attain an A grading. When the gradings came back to universities in early 2004 after the first census it seemed that those most likely to have attained an 'A' were those who had recently been appointed from overseas or those who had managed to gain funding to present their work at a number of overseas conferences. Moreover, it was difficult to see how anyone would rise above a 'C' category without showing some association with external research grants in their PBRF profiles. In one policy step a whole generation of researchers was brought 'in line' (and online!) and their research behaviours 'toned' by a central government agency (TEC): 'Along with the hegemony of the computer comes a certain logic, and therefore a certain set of prescriptions determining which statements (and people) are accepted as 'knowledge' statements' (Lyotard 1984: 4).

PBRF coincided with and co-constructed a general drive towards knowledge capitalism (Slaughter and Leslie 1997) in New Zealand universities. Emphases on patents, research contracts, highly productive researchers and profitable research centres became more intense and largely replaced the notion of the advancement of knowledge for its own sake. New university and faculty research managers appointed at the end of the 1990s or beginning of the 2000s geared up academic staff in readiness for PBRF, for competition for Centres of Research Excellence, as well as to compete more vigorously on a contestable basis for the existing research funds available through the Foundation of Research Science and Technology, Health Research Council and the Marsden fund.

The partial split of the funding of research and teaching, once considered inextricable, had finally been achieved in New Zealand under PBRF. The argument was (with some merit) that university research could not rely on the EFTS formula to supply research funds to potentially significant research programmes. PBRF would allow for more intensive knowledge and accountability of the individual research careers of university academics. At the same time the mechanism, with detailed outlines on who researchers would have to be and how they would have to behave to meet criteria, would inevitably shape the research that academics would engage in. PBRF would reward 'quality assured outputs' and the broader educative role of academics which might be achieved through widely disseminated, but less 'high brow' publications and advocacy work would not be so well rewarded.

Competitive individualism, the key tenet of neoliberalism, was revived in an extreme state in PBRF (Olssen, Codd and O'Neill 2004; Roberts 2006) with academics having to sell themselves narcissistically in statements describing what esteem they were held in by peers, their key research accomplishments, and their contributions to the research environment. The exercise would not come naturally to many sectors of the research community, unused to 'blowing their own trumpet'. The commodification of academics as well as their research 'outputs' both of which had various exchange values depending on their grading in the PBRF, was accomplished.

Conclusion

This chapter has argued that under the first Labour-led coalition government elected in 1999 academic research became both more commodified and more subject to surveillance (Foucault 1979b) than at any stage previously. The funding of research has been progressively split from teaching. How time and money is allocated in terms of research productivity is far more visible and the trade in researchers increasingly reflects their worth in PBRF terms. The new accountability apparatus for researchers is aimed directly at shaping researcher behaviours for improved research quality and productivity. A substantial amount of new money has been allocated to research concentrations largely in techno-scientific areas through the establishment of the COREs. This focus on academic research reflects Labour's recognition of the importance of New Zealand's major knowledge institutions to national development but particularly to economic development.

The four TEAC reports and the subsequent *Tertiary Education Strategy 2002/07* (Ministry of Education 2002) contained contesting and contradictory discourses, especially as these pertained to research policy. The reports discussed the importance of humanities and social sciences research in one sentence and then put discriminatory funding allocation mechanisms in place in another (through PBRF). Despite lip service to wide interpretations of the knowledge society, there was a strong emphasis on the culture of enterprise and building skills of entrepreneurship which was not very different from the discourse of knowledge economies. In many ways policy developments were a more sophisticated (hands on?) version of earlier research policy drives by neoliberal governments in New Zealand wishing to explicitly yoke academic research closely to economic development. Rather than promoting the marketisation of tertiary education per se, Third Way policies under Labour promoted knowledge production by universities for competitive international markets. As Peters

(2000c: 12) noted in his last lecture entitled ‘Globalisation and the Knowledge Economy: Implications for Education Policy in New Zealand’: ‘A certain tedium has crept into official policy documents and academic papers that derives from the new hyper-discourse and seemingly endless inflated claims that entertain the prospect of the so-called new knowledge economy and its implications for education.’

The heavily romanticised notions of the knowledge society which discursively underpinned the development of tertiary education from 2000 shaped university research in ever more managed, hierarchic and scientised ways (in the sense of all knowledge fields being pushed into a natural science model of research). UNESCO was one of the few international organisations at the time that managed to find ways of talking about higher education other than through the language game of economic performance. The summary report of the UNESCO world conference on higher education ‘Higher Education in the Twenty First Century: Vision and Action’ offered this perspective:

As regards the mission of higher education, the debates have shown that it needs to be widened. Beyond its traditional functions of teaching, training, research and study, all of which remain fundamental higher education also has a contribution to make to the solution of the major problems of planetary, regional and local importance (poverty, homelessness, worsening inequalities, environmental degradation, etc.) and to work to promote development, the sharing of knowledge, solidarity, the universal respect of human rights, democracy, equality of rights between women and men and a culture of peace and non-violence (UNESCO 1998: 4).

Further to this, the conference stressed the cultural and ethical mission of higher education. These, obviously, were not new ideas but are worth reiterating in the face of new and stronger calls to make academic research count in terms of dollars and weighted output scores (through PBRF) rather than in terms of difficult and theoretically intricate questions about knowledge, politics, ethics and the quality of peoples’ lives.

Chapter Ten

Innovation policy frameworks and a GE election

The economic genre's hegemony over the others can certainly put on the garb of an emancipatory philosophy of history. More wealth, more security, more adventure etc., there's our answer to the canonical phrase of political ethics: What ought we to be? (No. 210; Kant Notice 4; para 2). This ethical question is not asked, however, in the economic genre. In it, you don't gain (you don't grab onto the stakes) because you listened to the obligation and welcomed it, but because you've gained some time and are able to gain even more. Thus, the economic genre of capital in no way requires the deliberative political concatenation which admits the heterogeneity of genres of discourses. To the contrary, it requires the suppression of that heterogeneity. It only tolerates it to the degree that the social bond is not (yet) entirely assimilated to the economic phrase alone (cession and counter-cession) (Lyotard 1988b: 178).

Introduction

The last two chapters have discussed (among other things) the discursive production of research policy through the key statement of knowledge and to a lesser extent, innovation. The knowledge statement in particular, firstly through Foresight and later through the work of TEAC and the incoming Labour-led coalition government, produced a discourse which by the early 2000s spanned most of the policy framework. Innovation was the 'means' to the knowledge 'end'. University and national science research as one side of the knowledge coin (the other side being teaching (Lyotard 1984)) would move increasingly to the fore in terms of profile, levels of funding, and accountability (viz PBRF). Innovation in all its forms but particularly innovative research was the discursive saviour and apparent means to economic growth. This was in contrast to the incessant calls for efficiencies and cost cutting measures of the previous fifteen years. While the new environment looked positive for some science researchers (more funding, greater 'investments' in science), the changes tended to systemically discriminate against social scientists and particularly researchers working in the humanities. The discursive hierarchy of economic over social and environmental goals and developments remained stable throughout this period. The May 2003 MORST publication (Hodgson 2003) explaining the science system (more often referred to as the knowledge or innovation system) was entitled 'Accelerating New Zealand's transformation: Extracting

value from knowledge' (my emphasis). The first paragraph in that publication produced the hierarchy yet again:

The Government sees research and innovation as key drivers for transforming New Zealand into a knowledge-based society. New Zealand's research, science and technology system should catalyse and accelerate economic, environmental and social development (Hodgson 2003: 1).

It was always going to be more difficult to show an economic outcome for humanities research as opposed to genetic engineering, for example.

The knowledge statement had become so ubiquitous that in 2003 Steve Maharey, Associate Minister of Education (Tertiary), admitted it had become a cliché (while answering a question at the opening of the HERDSA conference in Christchurch, 2003). This did not stop Labour and its partners trading on the term in policy statements through their first and second terms. However, 'innovation' increasingly became the new discursive neon sign, the 'in' word, in science and concomitantly business circles. This chapter tracks the statement in MORST documents from the early 1990s and describes how it moved from MORST policy documents (where arguably it belonged) into whole-of-government policy initiatives following the 1999 election. This included the tertiary education sector.

Moreover, while the discourse of techno-science (innovation, knowledge) became co-opted by the government for a range of non-science policy initiatives, science itself became one of the key issues in the 2002 election. The second part of this chapter performs an analysis of one media text which constituted the close imbrication of policies and financial interests of the universities, government, national science organisations and business at this time. The argument is made that once several powerful institutions and organisations see their interests overlapping and engage in the same language game it becomes very difficult (although not impossible) for those outside the discursive formation to be heard let alone to shift the discourse. 'Non – believers' may even be demonised for holding an opposing point of view, while those from the 'inside' group continue to construct their truth/s through various discursive means, including that most discursively powerful tool, the media.

Science innovation or innovation for everyone?

Apart from the occasional innovation by an inventor that may have been heard about in the past, the word was previously rarely used in everyday discourse or public policy discourse.

Innovation or its inflections appeared sporadically in the newly restructured Ministry of Research Science and Technology. In an early issue of the Ministry's newsletter, *Sci-Tech*, the Prime Minister, Geoffrey Palmer, under a headline, 'Innovators to be rewarded under the new regime' announced at the opening of the offices of the Ministry of Research Science and Technology on May 30 1990:

Innovation will bring economic growth to New Zealand and huge gains will be made by recognising the skills and expertise of our people (MORST 1990b: 1).

This was part of an announcement launching the Young Innovators Awards – '... a series of awards to encourage students to be innovative in their ... science and technology projects ...' (MORST 1990b:1).

In the event, the first awards of \$1,000 per student were given out by the new National Minister for Research Science and Technology, Simon Upton, who pointed out that: 'The Young Innovators Award was a first step in a programme to make students of all ages aware of the importance of innovation in economic growth' (MORST 1990c: 1).

In 1991 under the headline: 'Businesses Urged to Back Innovators', Philip Burdon, National's Commerce Minister, rehearsed a familiar complaint that New Zealand businesses were well behind the OECD average in investing in R&D and that they ought to pull their weight and do more to contribute to the national research effort:

He emphasized the need for New Zealanders to back local innovators, and said potential wealth earners were withering for lack of funds (MORST 1991: 5).

In 1994 MORST contracted BERL (Business and Economic Research Limited) to undertake an 'Innovation Survey'. Representatives from BERL and the Ministry noted that '... the importance of innovation for corporate and economic success (was) increasingly being recognised' (MORST 1994a: 1). The article continued:

Innovation capacity is seen as being a vital component for both individual corporate and national economic success. Innovation generates a key competitive advantage which is essential in today's highly competitive and fast changing world.

Over five or so years then, ‘innovation’ made just a few appearances in *Sci-Tech*, although those it did make explicitly linked innovation with economic growth. As noted in chapter nine, the situation changed when James Buwalda replaced Basil Walker as MORST’s Chief Executive in mid 1996. Shortly after the appointment, he wrote an article for *The Dominion’s* Infotech Weekly entitled ‘Foresight - Innovation - Technology; today’s successful business trinity’ (Buwalda 1996a: 6)? The piece served as early warning of the Ministry’s newest science prioritising exercise which was to be launched a year later: New Zealand Foresight. Buwalda’s article criticised New Zealand businesses for not investing enough in innovation. However, Buwalda promised that Foresight would change this by bringing New Zealand scientists together with business. He said:

We are fortunate to have in New Zealand a very capable scientific community that is highly regarded internationally. The “can-do” innovation culture in our firms is also legendary. Putting the two together and adding foresight should be the recipe for success (Buwalda 1996a: 6.).

From the mid 1990s the Ministry of Research Science and Technology was literally awash with the word innovation and its by now ‘commonsense’ linkage with economic growth.

The Association of Crown Research Institutes (2000) document *Knowledge underpins quality of life: an economic commentary* reasoned that the 1980s and 1990s reforms had resulted in poor economic growth for New Zealand not because of their generally flawed economic and social assumptions but because innovation and entrepreneurship had been lacking from the overall equation. The document explained that the so-called efficiency gains over this period of time (cost cutting, short funding cycles, redundancies) were misguided. Rather, the path to economic success was innovation. In this document, like many produced in western countries at the time, particularly in science institutions, innovation was constructed as the key to prosperity, and as such innovation and its relationship to knowledge took on some very specific attributes. These were well exemplified in the following quote by the Australian Chief Scientist, Robin Batterham in *The Chance to Change – Final Report* (2000). He described innovation as follows:

Where knowledge is an essential ingredient, innovation is the activity that utilises that resource. As sunlight is to photosynthesis, knowledge is to innovation. Innovation is the process that translates knowledge into economic growth.

Innovation is much more than invention or R&D. It encompasses all activities encouraging the commercialisation and utilisation of new technologies – scientific, technological, organisational, financial and business.

It is now widely accepted that innovation is the key to future prosperity (Batterham 2000: 15).

Here innovation and knowledge were very closely interrelated; indeed the analogy with sunlight and photosynthesis gives the relationship an organic, naturalised quality. This becomes more problematic when the extension of the explanation suggests that if innovation and knowledge are organically connected, economic growth is the ‘natural’ outcome. The implication being that it might be ‘unnatural’ to think of the trio in any other way. The metaphoric connection links knowledge, innovation, economic growth and a popularly accepted scientific explanation for plant growth. These constructions do not engage culture, history, society and, by association, people. The second paragraph expands on this apparently ‘natural’, perhaps even scientifically verifiable relationship, by emphasising the connection between innovation and business. Innovation became much more than that activity linked closely to the scientific worlds of ‘invention and R&D’. Indeed by noting that ‘innovation encompasses all activities’ and then suggesting that ‘all activities’ are constituted by ‘the commercialisation and utilisation of new technologies – scientific, technological, organisational, financial and business’ Batterham was constructing some very particular understandings of innovation and knowledge. He asserted that innovation was the key to future prosperity.

By the early 2000s innovation had gone mainstream in New Zealand. It was difficult to get through a day without hearing/speaking/reading the word. Innovation and its grammatical inflections appeared in advertisements for new types of chewing gum (for example I received an advertising flyer posted in my letterbox in late 2002 declaring PK gum to be ‘the innovator’), fashion stories (see, for example, Jones 2001) and stories about dryers (Read 2003) etc. Statistics New Zealand (2001) reports told New Zealanders how innovative they were (our private sector enterprises were about 42% innovative) and Global Entrepreneurial Monitoring (GEM) reports from UNITEC academics insisted that innovation was part of New Zealand culture (*The New Zealand Herald* 2001: D1- D9) – see image below . For the New Zealand Labour - led coalition government, innovation became the key statement explaining how New Zealand would reach the knowledge society.



Figure 15: The GEM report

*Image depicting New Zealand entrepreneurialism –
a jet fuelled buzzy bee soaring across the planet (The New Zealand Herald 2001: D1)*

Labour and innovation – a whole-of-government approach

The election of the Labour-Alliance coalition at the end of 1999 signalled a more elaborate game plan aimed at coordinating government and private sector activities with a view to improving economic performance and delivering New Zealand to the ‘Knowledge Society’. The Science and Innovation Advisory Council (SIAC) was established soon after the election by the Prime Minister, with the aim of:

- Increasing public status and recognition for scientists and science;
- Promoting a long term strategic direction for research science and technology;
- Building private sector commitment to new science and technology policy directions, and;
- Enabling co-ordination of Government policies and community activities at the highest level (Christie 2000: 1).

The Council’s final report (SIAC 2002) focussed on the last objective, stretching the notion of innovation across all sectors and activities of New Zealand well beyond the science/research system. In the policy document, *New Zealanders, Innovators to the World* (SIAC 2002), the Council called for each and every New Zealander to be innovative and to support innovation.

Ironically, the front cover image could not have been more marginalizing. The South Island (innovation island?) of New Zealand was reduced to a boardroom table with several entrepreneurs seemingly doing a business deal across it, literally ‘leaning on’/ ‘dealing’ the country. One might imagine they were engaged in selling it off (the ultimate commodity?).

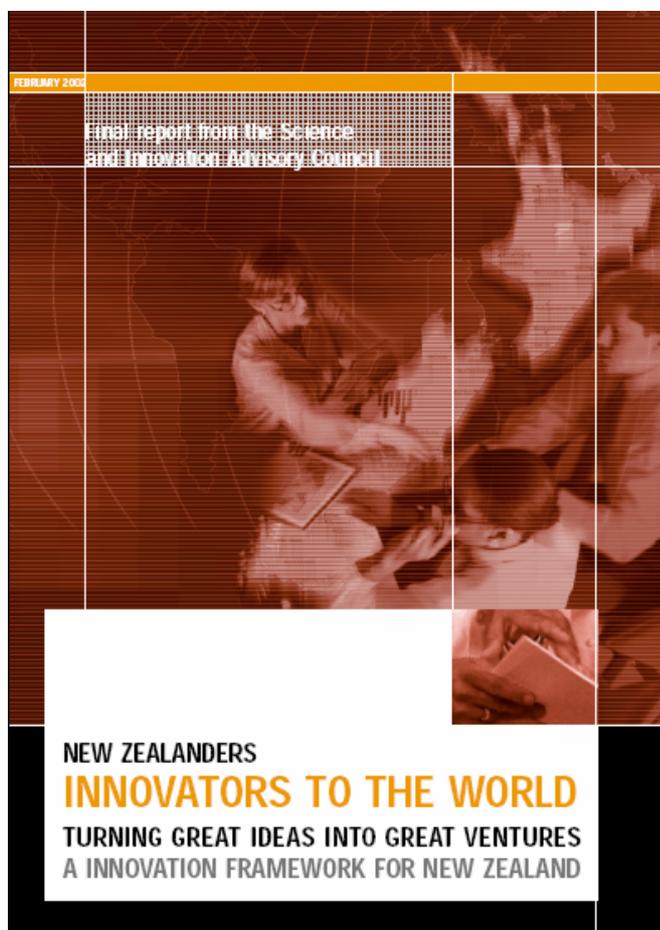


Figure 16: New Zealanders: Innovators to the World

Front cover of New Zealanders: Innovators to the World (SIAC 2002)

In an earlier report entitled *New Zealand's Innovation Report Card: Lots of potential could do better* (SIAC 2001), the comparison with a child's school report was not accidental. The front cover of the SIAC document carried an image of a gorgeous but perhaps slightly cheeky boy of not quite discernible nationality with the North Island of New Zealand to his right blown up against a globe. In the image below the boy, adult hands were holding a supposed report card. It appeared as though New Zealanders were being constructed as a nation of under-performing school children being told off by the members of the Science and Innovation Advisory Council.

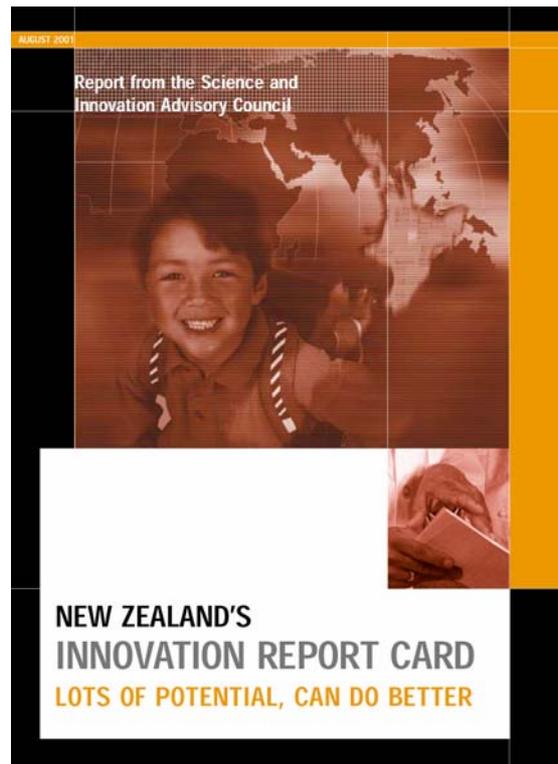


Figure 17: New Zealand's Innovation Report Card
Front cover of New Zealand's Innovation Report Card (SIAC 2001)

Through the SIAC documents, innovation was textually and visually transformed into whole-of-country innovation. This broadening of the fields which the discourse of innovation covered was rather dramatically underscored by Rick Christie, Chairman of the Board: 'With the willingness to wonder, the courage to try, and the determination to succeed, New Zealanders have the potential to become innovators to the world. With leadership and a will to act, we can do it' (Christie 2002: 6).

In the meantime, a host of other innovation-related events took place. As noted in the previous chapter, one of the most high profile of these was the University of Auckland/government sponsored Knowledge Wave conference in 2001. The first of its theme papers was titled, perhaps predictably, 'Innovation and Creativity'. While social commentators were invited, the conference was primarily aimed at overseas and home-grown elites who would tell New Zealand how to climb, by hook or by crook (or by innovation), into the top half of the OECD. In her February 2002 speech and published document *Growing an Innovative New Zealand* Helen Clark (2002) drew on recommendations from the Knowledge Wave conference, the work of SIAC and Industry New Zealand, as well as advice from Treasury and private consultants, to launch the national Growth and Innovation Framework (GIF). In doing this she

further emphasised the centrality of innovation to every aspect of policy and society. Clark began in her introduction by saying how important innovation was to New Zealand's economic and social goals and then went on to argue that New Zealand's 'success' in every field depended on economic growth:

There is a broad consensus that the key driver of higher growth rates is more innovative activity. We must build an effective innovation culture that permeates the whole economy. The countries that create and adopt new technologies and which generate innovation grow faster than those that do not (Clark 2002: 6).

Certainly in New Zealand the statement innovation seemed to have acquired an urgent, almost moral stridency and was seen as *the* crucial factor for propelling New Zealand and its constituent institutions and businesses into the future. Specific sectors of concentration were highlighted for policy intervention and support because they would supposedly have 'the greatest impact' and '... because of their extensive influence on so many parts of the country' (Clark 2002: 49). The three sectors were information and communication technologies (ICTs), biotechnology and creative industries. This high level recognition for ICTs and biotechnology in particular, in the name of creating a more innovative New Zealand, gave a technoscientised construction to New Zealand's future. In a policy sense techno-scientific research and its close partner 'innovation' were going mainstream and the effects would be felt immediately in the education and business sectors.

The *Tertiary Education Strategy 2002/2007* (Ministry of Education 2002a) highlighted the importance of innovation to the improvement and development of the entire New Zealand tertiary education system. As noted previously, innovation was one of six national goals outlined in the *Growth and Innovation Framework* and the tertiary education strategy was called on to give effect to these goals (see Ministry of Education 2002a: 10). Chapter six (Research) was unequivocal in its vision of a fully integrated 'innovation system' of which the universities were a key component: 'Universities, in particular, will be seen as key drivers of economic transformation through fundamental knowledge creation and its diffusion within New Zealand's innovation system' (Ministry of Education 2002a: 55). The litmus test of whether the universities were producing quality research would be whether they (and others) were applying 'new ideas and technologies to create high value exports':

By 2007, the quality and focus of tertiary education research, and the strength of the relationships between the tertiary system and other sectors, will be seen in the faster uptake of new knowledge and the widespread recognition that the ongoing growth of New Zealand's knowledge economy depends on our ability to develop and apply new ideas and technologies to create high-value exports (Ministry of Education 2002a: 55).

The writer went on to note that the contribution of academic research to the cultural and social dimensions would be appreciated and that this work would enable a 'more inclusive approach to economic transformation' (Ministry of Education 2002a: 55). It seemed as though social science and humanities research were seen as handmaidens to what New Zealand apparently needed: more techno-scientific research to fuel economic growth. Lyotard's explanation of the performativity criterion is relevant here. He predicts (in the absence of former metanarratives of emancipation and 'the life of the spirit') that if performativity of the supposed social system is the criterion of relevance (that is, the measurement of the best relation of inputs and outputs principally measured through the economy) then 'higher education becomes a subsystem of the social system, and the performativity criterion is applied to each of these problems' (Lyotard 1984: 48). He continues:

The desired goal becomes the optimal contribution of higher education to the best performativity of the social system. Accordingly, it will have to create the skills that are indispensable to that system. The first kind are more specifically to tackle world competition. They vary according to what "specialties" the nation-states or major educational institutions can sell on the world market Secondly ... higher learning will have to continue to supply the social system with the skills fulfilling society's own needs ... so many doctors, so many teachers in a given discipline, so many engineers, so many administrators, etc (Lyotard 1984: 48).

In this analysis innovation can be seen as a discursive (and material) close relation of neoliberalism. The genre is still very much economic and the espoused economic goal is economic wealth created through the production of techno-scientific knowledge, although under Third Way governments there is a recognition of the need for 'social and cultural inclusion'. The difference is that innovation rather than cost cutting (a narrow interpretation of efficiency) is seen as the way of reaching the goal.

Inevitably this focus on innovation and particularly the two key technological areas of biotechnology and ICTs has and will change what constitutes knowledge, and by association, research. In a 2003 MORST document (Hodgson 2003) six examples of research are listed

under the ‘economic goal’ and three of them relate to biotechnology, one relates to ICTs and the other two describe the fund in question rather than research per se. Like the statements ‘innovation’ and ‘the knowledge society’, the new emphasis on biotechnology and ICTs constituted a recycling of powerful western commercial, policy-related and intellectual narratives. Biotechnology and ICTs were widely recognised to be ‘enabling’ technologies which would behave like large umbrellas, gathering a whole range of traditionally discrete product sectors beneath them. For example improving wood stock and manufacturing cheese were previously two quite different areas of activity. Now they would be brought together under the rubric of biotechnology. High level support would encourage a policy lock-in around each of these previously discrete areas and provide ‘... a wider cultural narrative which requires public and private sector actors to attend to the demands and opportunities they are said to bring’ (Brown et al 2000: 11). Inevitably there would be opportunity costs as alternatives were closed off or given much less attention. In the case of New Zealand’s agricultural industries, the development of organics, for example, received relatively minor political or media attention or research funding.

A policy lock-in was particularly evident around biotechnology in New Zealand. For example, a good deal of policy work at the time was focussed on biotechnology itself (see for example ACRI 2000) or trying to understand public fears surrounding GE science. For example, a 140 page report was carried out for MORST by NZCER and ACNielsen in April 2002 entitled *Commensense, Trust and Science: how patterns of beliefs and attitudes to science pose challenges for effective communication* (Hipkins et al 2002). The report suggested that if people had a better understanding of science they would be more likely to agree with it:

Concern may be exacerbated by a conflation of science and business interests by those segments of the population who do not have direct contact with professional science. Across different segments, there appears to be a high level of awareness about past dishonesties in science internationally, particularly in relation to the reporting of health effects of smoking. Public relations approaches to socio-scientific issues are, accordingly, treated with circumspection or outright suspicion (Hipkins et al 2002: 3).

In 2002, New Zealand saw its first ever election fought over science and specifically the release of genetically engineered organisms in field trials. The election outcome was so important to pro-GE (genetic engineering) interests that the Life Sciences Network (a pro-GE

lobby group) ran a full page advertisement days from the 2002 election (discussed below, Life Sciences Network 2002: A8). Government, university and business organisations were depending on the moratorium on GE field trials being lifted in October 2003. Policy path dependency for biotechnology was also highly evident in the constitution of the Centres of Research Excellence (CORES), established in line with recommendations from TEAC for the need to fund research concentration and strength in tertiary sector research. Of the seven Centres of Research Excellence funded by the government, six were involved with biotechnology. Indeed the arguments could be rather circular. It was often biotechnology's and particularly GE's supposed ability to be innovative and thereby underpin economic growth that was used as an argument for supporting it rather than existing capability in the field e.g.:

Biotech industries provide a way of generating greater innovation in the primary sector, and leveraging our knowledge of biological systems There are significant global opportunities in biotech ... (Clark 2002: 53).

At this time FORST moved into more co-funding arrangements with industry. Technology New Zealand had been established to increase 'the ability of firms to adopt new technology ... and technological innovation for business growth' (Hodgson 2003: 3). A new government funded entity, the New Zealand Venture Investment Fund (NZVIF), added government money to that of private investors in the early stage of ventures 'that show potential to create high added-value goods and services' (Hodgson 2003: 3). The New Economy Research Fund (NERF) provided research money for science and technology development that related to new and emerging industries and enterprises.

Policy flowing out of MORST continued down the inexorable innovation line with the i3 challenge launch in February 2003 (MORST 2003). i3 was aimed at strengthening the RS&T system through the three 'i's': Ideas, Innovation and Investment. Unlike the Foresight exercise, the universities were included in the MORST discussions at the time of the i3 challenge. University research deputy vice-chancellors attended a workshop with the CRIs hosted by the two respective Ministers, Steve Maharey and Pete Hodgson, and attended the launch soon after. At the CRI/NZVCC workshop the idea was floated of creating a single national science strategy incorporating both the universities and national science system. Times had changed: several universities had developed 'innovation' incubators and had sophisticated commercialisation strategies for their resulting innovative research products

(*The New Zealand Herald* 2002b). Moreover, MORST, no longer a policy afterthought, was increasingly considered to be the authority on all types of research. The innovation ‘brand’ had worked to extend influence well beyond science and technology and MORST was seen as the lead agency for all research and knowledge strategies, not just those involving science and technology.

My vision is to see New Zealand with a world-class RS&T system that will bring prosperity to all of our people.

Where we embrace new technologies to make strategic:

- performance of existing businesses and creation of new enterprises
- sustainable management of our environmental resources
- solutions to address health and social issues.

We have a solid foundation and a good track record – now we need to build on these strengths to achieve excellence in what we do.

My commitment to you is to work to provide the resources and backing you need. Over the next 23 years, I will work on the following areas of our RS&T system:

- 1. Focusing IDEAS** on national needs – we will define targets and objectives to focus the contribution of RS&T on important economic, environmental and social outcomes – so we deliver on needs of national importance and make a difference in the areas that matter to New Zealand.
- 2. Driving INNOVATION** through strengthened capability – we will develop and implement a framework for defining, developing and strengthening nationally important research capabilities – so we are able to conduct world-class research now and in the future.
- 3. Generating INVESTMENT** in areas of greater commercial value – we will identify and address commercial to attract more commercial value from our world-class research – ensuring we work in partnership with the private sector and provide ideas and advice to transform New Zealand businesses.

I am confident about the future, but I need your help. I can provide the broad stroke and the underlying themes, but need your help with the details and the implementation.

There will be widespread discussion on the best ways to address these priority areas. The Ministry of Research, Science and Technology will lead the work, and will work alongside RS&T purchase agents and providers, the private sector and bodies such as the Growth and Innovation Advisory Board, to develop practical ways to realise the challenge funding us. Reference and focus groups who helped identify the priorities outlined here will also be involved in developing solutions.

We will take stock of progress on

THE i3 CHALLENGE
Ideas • Innovation • Investment

in October 2003.

I invite you to join with me, and the Ministry of Research, Science and Technology, as we work to ensure RS&T improves the future for all New Zealanders.

Hon Peter Hodgson Dr James Bewick

THE i3 CHALLENGE
Ideas • Innovation • Investment

I have a vision of a prosperous Antipodes New Zealand where all the people of this land share in the benefits gained from a higher standard of living.

A country that is the birthplace of world-changing people and ideas.

I want to work alongside you in ensuring the Research, Science and Technology (RS&T) sector plays a leading role in achieving this vision.

We must ensure RS&T provides all the benefits it can. Producing new ideas and knowledge is not enough. The RS&T system also needs to increase its efforts to turn knowledge into valuable and usable achievements.

For New Zealanders, our efforts should translate into:

- improved performance of New Zealand businesses and creation of new enterprises
- sustainable management of our environmental resources
- health and solutions to health and social issues.

I have listened to many ideas about how to strengthen the RS&T system so that it is better able to support the vision of a better New Zealand.

As a result, I want to concentrate my efforts on three vital areas:

- 1. Ideas** – focus ideas and knowledge generation more strongly on meeting national needs
- 2. Innovation** – develop strategic long-term research capabilities to drive innovation
- 3. Investment** – gain greater benefit out of public investment in RS&T and generate greater private investment

I invite you to join me in taking up the challenge to maximise the benefits that RS&T can deliver for all New Zealanders.

STRATEGIC DIRECTION 2003-2005

Figure 18: i3 challenge flyer, MORST 2003

Promotional flyer depicting New Zealand as an innovation triangle (MORST 2003).

An all-of-country approach to innovation, by a government intent on delivering New Zealand to the knowledge society, at first glance looked promising for national science and tertiary education research. Finally, the universities had been recognised as the important knowledge producing institutions they were, and research funding had been increased through both the Education and Science envelopes (Treasury, 2002). However, the discursive formation constituted through policy texts calling everyone to be perpetually innovative in the interests of economic growth could not but change how research in the universities and national science system was practiced.

Spinning science for votes in pre-election New Zealand, 2002.

The New Zealand government claimed to be reconstructing the country, a rurally-based economy, into a knowledge society. As outlined above, one area which was seen as crucial to

this development was the growth of new products and processes deriving from biotechnologies, including genetic engineering. Until 30 October 2003, New Zealand had a three year moratorium on the commercial release of GE organisms into the environment. The 2002 national election saw the rise of GE as an election issue with many New Zealanders preferring to keep the moratorium in place for a longer length of time. Business and science interests had been strongly opposed to such a possibility. This section performs a discursive analysis of a pro GE advertisement, sponsored by business and government-funded science organisations (including two universities), which appeared in twenty one New Zealand daily newspapers three days prior to the 2002 New Zealand general election. Of particular interest is the 'rarity' of the text (Foucault 1969): why this text was produced at this time, in this place, for this audience and how it might have been productive and constitutive of particular power configurations in New Zealand at the time.

Until now the thesis has mainly engaged a broad discursive analysis. This has involved identifying key repeated statements in policy documents and examining how these have constituted ruptures, continuations, emergences or descents in the configuration, extension and circumscription of discursive formations. By contrast, the following examination constitutes a close and extended analysis of text. It is a case study. This particular text was chosen for magnification and unpacking because of the way it sought to construct public opinion and because of the close interinstitutional scientific, financial and power interests imbricated in it. The appearance of such an advertisement would not have been discursively possible twenty years prior. Indeed the argument offered here is that the particular historicity of the development of science and tertiary education research policy that has been 'told' in this thesis was constitutive in 'producing' this text at this time.

Through engaging in a close analysis of the text it is possible to see how 'truths' have been constructed and to what effect. It is also possible to trace interdiscursive links between government and institutional policies. The point here is not to claim a truer truth (than the text) but to unpack the text and to take a close look at 'what's there'. As Foucault (in Gordon 1980: 50-51) observes, 'The making visible of what was previously unseen can sometimes be the effect of using a magnifying instrument (It) can also mean a change of level, addressing oneself to a layer of material which had hitherto had no pertinence for history and which had not been recognised as having any moral, aesthetic, political or historical value.'

Science discourse

In a recent volume of *Discourse Studies* Casamiglia (2003), advocated the discursual study of new forms of scientific communication, especially those constituted through the popular media. The guest editor suggested that by providing scientists and their communicators with ‘discursive and critical competences’, the communication of science might be improved and even made ‘useful and attractive in a world subjected to the crossfire of purposes and interests not always clearly manifested’ (Casamiglia 2003: 145). Such an analysis suggested that the goal of science communication was to transparently translate the specialist language of scientists into something the wider public could ‘... obtain information (from) to guide their thinking and actions’ (Casamiglia 2003: 145). While Casamiglia acknowledged the social nature of scientific activity and discussed public misconceptions about science (that it is a neutral activity, that the scientific community has the right to account for and, literally and linguistically, ‘construct’ natural, human and social reality) she failed to address questions of power and governmentality as these relate to scientific knowledge and concomitantly, scientific discourse. The inference was that if only scientists could communicate more effectively and the public had a greater understanding of scientific matters, the world would be a better place and scientists would have an easier life. This thesis has suggested, rather, that the goals of science, or more accurately, techno-science (Lyotard 1984) are in fact deeply imbricated with capital regeneration and through this, governmentality in capitalist societies. Whose knowledge comes to count in terms of policy and funding commitments is a question of power. It is for this reason that scientific communication (including policy and media texts) needs to be addressed as a problem which should be explained, critiqued and weighed for its ‘... capacity for circulation and exchange’ (Foucault 1969: 136) rather than as something that has necessarily to be done better or improved through the insights of discourse analysis. In Foucauldian terms discourse, including scientific/media discourse, can be regarded as ‘... an asset that ... from the moment of its existence Poses the question of power; an asset that is, by nature, the object of a struggle, a political struggle’ (Foucault 1969: 136).

GE science in a New Zealand election

Gaining public support and getting the public to believe the scientific and now concomitant economic case for GE had been a dilemma for GE interests in New Zealand facing the possibility of a significant anti-GE vote in the 2002 general election. The concept of GE technology confronted New Zealand’s national identity myth of being ‘clean, green and pure’.

For example, a (TV) One Network News Poll in 2001 indicated that 62% of the population was opposed to the release of GMOs (genetically modified organisms) into the environment (Trotter 2002a). In addition, an alleged GE cover-up by the Labour-led coalition government just prior to the 2002 election (see, for example Hagar 2002) helped to fuel growing public disquiet over the lifting of a national moratorium on the commercial release of GE organisms, scheduled for October 2003. The subsequent media furore suggested that there would be a significant migration of votes from Labour to the minority Green party, which had already stated that they would not support the lifting of the moratorium. The threatened lack of support for confidence and supply if the moratorium were lifted had the potential to dismantle any Labour-led coalition government, mid-term. Helen Clark, New Zealand's Labour Prime Minister, was derisive of the Greens' decision not to support the lifting of the moratorium. She announced that if New Zealand followed the Greens' position on GE, that is, allowed contained laboratory experiments but no field trials or commercial release of GMOs, New Zealand would be considered a 'laughing stock' (see for example, Anderson 2002).

As noted above, prior to the election biotechnology and its sub-knowledge field of genetic engineering had been singled out at the highest level by the Labour-led coalition government as one of three key areas targeted for intensive and highly strategised policy and resource support. Helen Clark, in her Speech to the Nation (consequently released as a published report), *Growing an Innovative New Zealand* in February 2002 stated:

Biotechnology is directly related to New Zealand's strength in the primary sector, the only sector in which New Zealand has world-class scale and specialisation. Focussing innovation effort on biotechnology, for example, is a way of leveraging New Zealand's comparative advantage in the primary sector to add more value to our products (Clark 2002: 52).

In addition, biotechnology was presented to the New Zealand public as something that they were uniquely destined to 'take on'. In Clark's report under the heading of biotechnology, she said:

The Royal Commission on Genetic Modification noted that the 21st Century has already been dubbed the biotechnology century and that New Zealanders have a history of quickly adopting and adapting new technologies if New Zealand is to take full advantage of the potential

benefits of this technology (biotechnology), we cannot be passive (Clark 2002: 54).

The Labour-led government, while it followed a cautionary approach advised by the Royal Commission on Genetic Modification (2001), had been clear that it intended to lift the moratorium in October 2003. This determination was generated through a strong belief that stopping genetic research in field trials would have a number of deleterious consequences for New Zealand. For example, there was the threat that it would frighten big business away from New Zealand; dark hints had been proffered that delaying the moratorium would prevent free trade deals between New Zealand, Australia and the United States (see for example the strong polemic by US Ambassador to New Zealand in *The New Zealand Herald* (Swindells 2003)); and the media had reported that circumscribing genetic research would send a number of New Zealand's young entrepreneurial scientists off shore. The received view seemed to be that while New Zealand would never be able to make a global impact in the medical area, the country's strong agricultural base could make it a leader in the development of new agricultural products generated off the back of genetic technologies. For example, Jim Watson of New Zealand's most high profile biotech company, Genesis, noted: 'New Zealand could never afford to take new drugs through to world markets because the cost ran into millions of dollars But it could afford to develop products based on agriculture and forestry where its scientific strength lay' (Collins 2002a: E4). Just one example of a strong private sector commitment to agricultural genetic research was New Zealand's dairy giant, Fonterra, which reported that it would devote \$60 million to GE research over five years if the moratorium was lifted. In addition, the company suggested that if the moratorium was not lifted it would take its investment dollars off shore to do the research in Australia (Bourne 2002).

Given these circumstances, Labour's obvious preference just prior to the 2002 election was a clear majority to govern unhampered by the Greens. *The New Zealand Listener* reported Clark as saying 'I think there's a clear signal from the electorate that they'd like an authoritative government and that they're comfortable with the direction' (Ansley 2002: 21). This was also the preference for Labour's national and multinational corporate supporters as well as some of New Zealand's universities and publicly funded research institutes engaged in genetic research. The lobby group which brought many of these groups together was the Life Sciences Network (LSN), an organisation which was comprised of several tax payer funded institutions including The University of Otago, Lincoln University and several of the Crown

Research Institutes (CRIs), as well as large industry players such as Fonterra, Federated Farmers and New Zealand Vegetable and Potato Growers, to name but a few.

A GE story

The first half of 2002 saw a GE story unfolding in the media which culminated in an ethically questionable public relations campaign run by the Life Sciences Network aimed at shifting voter perceptions in favour of GE. On 10 January 2002 a contained research laboratory of the New Zealand Institute for Crop and Food Research Ltd situated near Lincoln University in the South Island had been broken into and 1334 genetically engineered potato plants from three experiments had been destroyed. An action group called the Wild Greens had been blamed but nobody had (or has since) been arrested for the action. One of the experiments belonged to a Dr Margaret Gilpin (a post-doctoral fellow) and it was her story that caught the imagination of the press. Several stories were run on her and the potatoes she was developing during the year. A particularly personal and emotive story on Gilpin and her research appeared in *The New Zealand Herald* on 25 May 2002 entitled 'Genetically Mutilated'. The subheadline read: 'Margaret Gilpen should be preparing for the academic speaking engagement of her life. Instead the distinguished scholar, whose research was destroyed by saboteurs is looking back ruefully' (Cohen 2002). The story talked about Gilpin's work and highlighted the fact that she was a mother of two young children. It went on to say how incredibly difficult it had been for Gilpin during her year's research and how she had had to arrange care for her two and three year old children in order to do the 'intellectual work' with her 'beloved potatoes'.

This and earlier newspaper stories on Gilpin were cribbed to form part of a full page pro-GE advertisement that was run by the Life Sciences Network three days out from the 2002 election (Life Sciences Network 2002: A8). The advertisement appeared in twenty one newspapers across the country with TV teasers broadcast prior to the publication of the ad (Bone 2002: 29). Ostensibly, the advertisement was placed to give the public 'objective, factual information' about GE science (Bone 2002). Indeed, prominent politicians, Pete Hodgson (Minister for Research, Science and Technology) and United Future Leader Peter Dunne insisted that the advertisement was aimed at merely putting the facts before the public (Collins 2002b). The advertisement is an example of Lyotard's (1984) 'return of the narrative in the non-narrative', the attempt by science, but also government, the universities and business to try to convince the public that GE science was in their best interests and deserved

their support. It told a story about GE, purporting to give the public the facts, but far from achieving this, it resorted to near lies and comments which verged on the libellous.

Margy Gilpin: Pro GE scientist and mother of two

Looking at the advertisement for the first time, the reader focuses on the romantic image of a sad but attractive young woman (head and shoulders only) gazing out into the distance in the upper right hand corner of the page. She looks like she could be or has been crying. The photo is in soft focus so it is hard to be sure. Perhaps she has lost someone or something she loves (indeed in an earlier article the experimental potatoes are referred to as her ‘beloved potatoes’). Either way, something terrible appears to have happened. As Kress and van Leeuwen (1996) have noted, the use of soft focus in western images routinely signifies low modality. Perhaps in this case the soft focus photo of Margy acts as a visual reminder that the *facts have been modified beyond recognition*. Literally, they are no longer clear. The young woman is dressed in what looks like a white medical garment. At first glance she might be an attractive young nurse staring out sadly into the distance. Such a romantic image requires the reader to attend to the text with a mixture of desire, sympathy, and even, perhaps, outrage (who would hurt such a sweet looking young woman). Another look at the image reveals that the white garment the woman is wearing is recognisable as a laboratory coat and this is reinforced by the *Crop and Food* official logo (of the New Zealand Institute for Crop and Food Research Ltd) clearly showing. Already there is a dissonance between the lovely but sad looking young woman gazing out into the distance and her official uniform. This dissonance is reinforced in the caption underneath. This woman is actually someone with considerable prestige – she is a Doctor, a Plant Biotechnologist, but apparently the victim of sabotage. So, while the main character of this story fits at least one of our cultural stereotypes (young attractive women are often portrayed as victims in the popular media) she confounds the stereotype of a scientist who would tend to be male, white, probably middle aged, possibly bearded and possibly wearing glasses.

While Gilpin appears to be looking out into the distance she is also looking in the direction of the main headline of the advertisement. It almost seems like the headline is a speech caption for Gilpin. So, not only might she be looking sad because she is a victim of so-called sabotage but also because apparently: *In the GE debate, the facts have been modified beyond recognition*. Perhaps she is sad because people are not telling the ‘truth’ about GE. That *the facts have been modified beyond recognition*, is a play on the label GMOs (Genetically

Modified Organisms). GMOs tend to bear some semblance to their natural derivative (known by the FDA (Food and Drug Administration) as ‘substantial equivalents’). The headline is suggesting that the modification that has gone on here is much more serious than GE and the facts have changed so much that their origin cannot be recognised.

A8 NZ Herald • Wednesday, July 24, 2002

In the GE debate, the facts have been modified beyond recognition.



Dr Margy Gilpin, Plant Biotechnologist and victim of sabotage.

Earlier this year Dr Margy Gilpin's research into the development of a fast growing, disease-resistant, nutritional - yet humble - potato at Crop & Food Research, Lincoln, captured the interest of the scientific world.

Earlier this year Margy Gilpin's research using GE technology had earned her the right to present her results at the prestigious International Association of Plant Tissue Culture Biotechnology. A career dream.

Earlier this year, Margy Gilpin's fully contained lab was broken into and her entire crop was targeted and destroyed by saboteurs: anti GE fanatics.

All that time. All that work. All destroyed.

Approved use of GE is safe

For this mother of two young children, it was a devastating time.

Along with Margy Gilpin's work, the facts have also been destroyed in the GE debate. It has become highly emotional, highly political.

The simple fact is, while GE technology has enormous implications in medicine, it also offers potentially massive advances for New Zealand agriculture. And, were we to lose our place on the knowledge wave by not allowing continued, controlled, safe research on GE technology, we will all be victims. Remember, 50% of our economy is directly derived from the land.

As Dr Margy Gilpin points out, there is no sane basis for the horror stories being promoted by certain, anti-GE factions.

"In the last year alone, GE crops were grown on 130 million acres with the number of farmers choosing to grow GE crops increasing rapidly to 5.5 million. In the last 20 years, no health issue involving consumption of GE products has ever been substantiated, even though an incredible amount of effort has gone into looking for potential problems. Sure, you have to take every precaution as you would with any research project.

Here in New Zealand we have to meet the strictest regulations in the world so fully approved testing gives us the safety factor."

"New Zealand is in a very good position to be the world leader in GE technology. Scientists have been studying the safety and potential of crops since the first field trials at Lincoln in 1988 but we risk losing our place on the knowledge wave by not allowing continued

research. People need to be able to make choices about the food they eat, by being informed with accurate information and not being misled by unproven myths."

Even Patrick Moore, founder of Greenpeace, agrees. This from a man who is 'greener' than most: "I believe the campaign of fear being waged against genetically modified foods is based mostly on fantasy."

Food for thought, isn't it?

And it's worth remembering that cautious, controlled research into GE technology is here for one reason: to help make New Zealand - and the world - a better place.

If we do not allow safe research to continue in New Zealand, we will all pay the price. To cease the hard work would have an unprecedented negative impact on our economy and on our critical position in the knowledge economy.

www.lifesciencesnetwork.com

* Patrick Moore, Birmingham Times, February 6, 2002.

THIS ADVERTISEMENT AUTHORIZED BY: P Wewers, Executive Director, Life Sciences Network, 71 The Terrace, Wellington

Figure 19: GE debate advertisement

Full page advertisement in The New Zealand Herald (Life Sciences Network 2002: A8).

The use of the word *facts* is significant in this context because scientists pride themselves on knowing and supplying the public with ‘the facts’. Indeed, Dr Paul Atkinson, AgResearch’s General Manager of science, in *The New Zealand Herald*’s coverage of the advertisement the day after it was run, said: ‘I think it’s appropriate for us to provide information to the public,

and that is what the Life Sciences Network is mostly about – factual information ...’ (Collins 2002b).

The first meaning of ‘fact’ in the *New Pocket Oxford Dictionary* is ‘a thing that is known to be true’ (Soanes 2001: 320). And one of the major accusations of anti-GE groups is that they do not know the ‘facts’. Gilpin relegates the anti-GE lobby to the world of ‘idiots’ (Gilpin’s description of the people who destroyed her potatoes – Cohen 2002) while other members of the Life Sciences Network have called those opposed to GE food production, ‘Luddites’ (see Berridge 2001). Although this advertisement sets out to claim the moral high ground by ostensibly giving ‘factual information’, the only verifiable fact is the direct speech quote by Patrick Moore, founder of Greenpeace. Conversely, much of what is said in the advertisement skirts around the facts, sometimes verging on lies.

In the bottom left hand corner of the advertisement, there is an image of Gilpin standing dressed in civilian clothes smiling brightly (having recovered from being a victim?) and looking directly at the reader with another caption next to her stating *Approved use of GE is safe*. Although the text does not inform the reader who is actually stating this, the reader may assume that it is Gilpin, literally standing by what she says. The statement, *use of GE is safe* is modified only by the qualifier *approved*. This leaves open the very important questions of who does the approving, for what purpose, under what conditions and how approval takes place. The change to sharper focus for this second image of Gilpin suggests high modality. That is, we should assume that she is telling the truth. The main headline already sets up an expectation that the reader will be provided with the (unmodified and therefore, real) facts. Because this caption in the lower left hand corner is in the same print format as the headline (although smaller), it looks like one of *the* facts and because it is typographically singled out, perhaps the main fact that has been *modified beyond recognition*. This smiling full body, sharper focus image of Gilpin confounds our stereotype of authoritative figures telling us ‘the facts’. Gilpin is an attractive, young woman with a lovely smile. But she is also looking very sure of herself in this image and has her arms crossed as a mother might when telling her children what to do or a professor talking to students. Gilpin is not romanticised or overly feminised in this picture and appears wearing somewhat dowdy, ill-fitting clothes perhaps to visually underscore her apparent level headedness. It looks like Gilpin knows the facts and is assuring us of them. The small print to the right informs us that Gilpin is a mother of two

young children. The reader might be expected to be relieved at this stage. Here is this intelligent, sensible young woman, a mother, telling them that *GE is safe*.

Now that the reader is clear of the main message in the advertisement: *GE is safe*, they can give their attention to the story in smaller print. The narrative begins fairly conventionally *earlier this year* but the normal generic structure of a narrative is subverted because the following two paragraphs begin the same way. The repetition serves to emphasise that a string of significant events happened *earlier this year*. Since they follow each other in succession, though, we gather that they happened in sequence but all within the time frame: *earlier this year*.

In the first paragraph readers learn that Gilpin's work is of interest to the scientific world. Modifying *world* with the adjective *scientific* is important for establishing Gilpin's credentials. As Lyotard (1984) has noted, the scientific world considers its knowledge superior to other knowledge because it demands proof and truth. Since the reader is told that Gilpin has already captured scientific interest, her work must be good; she must have provided the proof necessary to earn a place in the lofty world of scientists. The reader also learns about her research: the development of a new kind of potato. Here it is described as *fast growing, disease resistant, nutritional yet humble*. The perception is that Gilpin is doing this research to provide better quality food for ordinary people. The description is quite different to that given by Gilpin in her poster presentation which won her a New Zealand Foundation of Research, Science and Technology (FORST) scholarship in June 2002. The Press reported: 'She summarises her project – namely the development of potatoes that combine traits such as disease resistance, superior processing, and strong appeal to consumers' (Robson 2002). The description in *The Press* article is designed to appeal to producers and marketers of a consumer product. This kind of innovative 'product development' has increasingly been the focus of FORST funding and is exactly what the government's focus on biotechnology is supposed to achieve - new agricultural products for competitive international markets. Indeed, Sir Gil Simpson (a competition judge) noted that the poster would be very attractive to overseas people wanting to do business with New Zealand and that was part of the basis on which he judged the competition (Robson 2002).

Importantly, the text does not inform the reader that despite Gilpin being used in an advertisement advocating the development of GE agricultural goods, Gilpin's own work did not involve the development of GE potatoes. Gilpin was using genetically altered potatoes

because the marker gene showed blue when dyed and this made the experiment easier to observe. Alistair Bone's article in *The New Zealand Listener* in August suggested that the '... real target was another more controversial experiment in the same lab that was looking to produce pharmaceuticals in potatoes' (Bone 2002: 31).

In the next paragraph the reader learns that not only did Gilpin's work capture the interest of the scientific world but that it *earned her the right* to present at an international conference. This, for Gilpin, the reader is informed, was a *career dream*. A successful career is something everyone is supposed to aspire to. For women, it is traditionally harder to achieve and remains only a dream for many. But this young woman had that career dream within her reach. The next two paragraphs seem to indicate that any hope of realising her dream has been dashed by the destruction of her research crops by *saboteurs*. This is quite misleading as the earlier *Press* article 'Honours Despite Setback' (Robson 2002), notes that Gilpin was travelling to the Florida conference within a fortnight to present her research. By the time the advertisement appeared she had been to and returned from the international conference in Florida.

The third paragraph notes that Gilpin's fully contained laboratory was broken into: *Earlier this year, Margy Gilpin's fully contained lab was broken into and her entire crop was targeted and destroyed by saboteurs, anti GE fanatics Saboteurs* is lexically chained with *anti-GE fanatics* to describe the people who supposedly broke into the laboratory at Lincoln. In fact, the people who broke in have never been arrested nor charged and so while it was very likely that they were protesting against the use of GE technologies, there was no evidence to prove that this was the case. Moreover, the so-called *fanatics* who broke into the laboratory at Lincoln ripped out some potato plants. They did not cause injury to any person, or to equipment. The negative description was supposed to encompass the Greens (political party) who had been frequently described in the media as anti-GE even though they supported the use of GE technologies in medical research. The use of *fanatics* is juxtaposed against Gilpin's scientific (and therefore supposedly rational) achievements and her visible sanity; she is deliberately visually constructed as 'normal'.

The sentence quoted above refers to Gilpin's fully contained laboratory but does not mention the work of the other scientists whose work was affected during the January break in. *The New Zealand Herald* article (*The New Zealand Herald* 2002a) reported that 1,334 plants from three research experiments (not just Gilpin's) had been destroyed.

All that time. All that work. All destroyed. The repetition of *all* and the rhythm da-da-da, da-da-da, da-de-da is onomatopoeic, reminiscent of the drudgery involved in hard work and the futility when it has all apparently been in vain. Although this was not quite the case (as noted above, Gilpin was able to travel to the conference and present her research). The subheadline below is a response to the main headline but also works as a logical follow on from: *All that time. All that work. All destroyed.* There is an ellipsis here of the contrastive conjunction. We could read **But** *Approved use of GE is safe*, implying that the so-called saboteurs wasted their time destroying the experiments because *GE is safe*.

In the next paragraph the reader gets more information about Gilpin which at first seems only tangentially relevant. *She is a mother of two young children.* The implication being that her hurdles to professional success were even greater than most because she has two young children. However, placing this statement directly below the *GE is safe* message serves another purpose. Francis Wevers (Executive Director of the Life Sciences Network) noted that the intention was to establish that ‘... not every mother of two thinks GM is going to poison their children and not every scientist is a half baked Frankenstein’ (Bone 2002: 31). This was in response to information suggesting that mothers of young children were the demographic most concerned by the development of GE food. High profile mothers in this category in New Zealand included Sue Kedgely (Green Party Member of Parliament), Susan Devoy (world squash champion), and also the group Mad GE (Mothers against GE) led by ex-musician/pop star Allannah Currie (of the 1980s pop group the Thomson Twins).

The next paragraph provides the textual transition and link from Gilpin’s story to the more generalised story about GE. The reader is assisted in making the transition through the use of bold face larger point print. Gilpin’s story serves as support and lead-in to the bigger story. Not only have the potatoes been destroyed but so apparently have the facts about GE. Causation is established between the destruction of the potatoes and the destruction of the facts about GE: *‘Along with Margy Gilpin’s work, the facts have also been destroyed’* This paragraph also provides the turning point between Margy as victim and Margy as authority figure telling the readership ‘the facts’.

It has become highly emotional, highly political. It refers anaphorically to the GE debate. The repetition of the intensifying adverb *highly* serves to further emphasise how emotional and political the debate has become. This is, arguably, the most cynical line in the text since the advertisement itself seeks to be emotive (to have voters feel sympathy for Gilpin and extend

their sympathy to the ‘plight’ of GE research) in order to intervene in the public’s voting behaviour. Moreover, the advertisement is wholly political in intent in trying to change the outcome of the election. So, while implying that science is not a matter for politics or emotion, the advertisement and GE science literally stoops to what it condemns (Lyotard 1984).

In paragraph eight the reader is presented with *the simple fact* that not only is GE useful for medical purposes, but that it is the key to advancing New Zealand agriculture and therefore the New Zealand economy. This is an important distinction. The Greens had continually supported GE technology for medical purposes but had opposed the lifting of the moratorium in October 2003 until more information was available on the risks involved in the release of GMOs into the environment. All of the anti-GE protests prior to the election had focussed on the development of GE food products in New Zealand. None had objected to GE medical research. An example of this confusion was the forced resignation from the Cystic Fibrosis Association of New Zealand’s world squash champion, Susan Devoy ‘... because of the views of a small group of members who could not tolerate her opposition to GM agriculture’ (*The New Zealand Herald* 2003). Apparently some members in the Cystic Fibrosis Association were displeased with Devoy’s membership on the Sustainability Council, which took a position that GM should only be utilised in New Zealand for medical purposes and that GE research should stay inside the laboratory.

The text then links the future performance of the New Zealand economy directly to whether GE research can be employed to develop new agricultural products. New Zealanders were frequently reminded by the Labour-led government that their ‘... real per capita income fell from among the highest in the world in the 1950s ... to 20th in the OECD by 1999’ (Clark 2002). The need to lift New Zealand’s economic performance has been the rationale for many policy initiatives since the Labour-led coalition came to power at the end of 1999. This is an argument the readership is very familiar with and therefore serves to link the argument for GE technologies into mainstream rhetoric.

Further, the text alludes to losing *our place on the knowledge wave*. The *knowledge wave* is an exophoric reference (referring outside the text) to the ‘Catching the Knowledge Wave’ conference of 2001, discussed in the previous chapter. There had been little public critique of the events and ideas produced through the Knowledge Wave conference and it had generally been thought to be a beneficial initiative for New Zealand. There had been high media

coverage including a year-long campaign by *The New Zealand Herald* (New Zealand's most widely read daily newspaper) following the conference, highlighting issues around economic growth. Every article carried the symbol of a wave and the logo 'knowledge wave' in the top left hand corner. As in the case of the linked argument for economic growth, there was also a high probability of readers making interdiscursive links between Gilpin's assertions and the wider media-generated discursive formation around 'the knowledge wave' in New Zealand. Another article linking GE (here included in the term *life sciences*), prosperity and the knowledge wave was by Dr Warren Parker, science general manager of AgResearch's Ruakura Research Centre written in early June 2002. The article was entitled 'Life sciences crucial in path to prosperity'. Parker (2002) noted: 'The case for life sciences coincides with the views of leading international speakers at last year's Knowledge Wave conference. They identified the plant and animal sciences as one of New Zealand's few internationally competitive areas for innovation.' The reference to the knowledge wave in the text could also be seen as an effort to establish solidarity with readers. It could be glossed as 'we're all New Zealanders, we're all in this together, we all know what the knowledge wave is and we all want to be on it.' This bid for solidarity is further emphasised through the use of the inclusive first person plural pronouns *we* and *our*.

The sentence: *And, were we to lose our place on the knowledge wave by not allowing continued, controlled, safe research on GE technology, we will all be victims*, sets up a causative relation between *allowing continued controlled safe research on GE technology* and increasing economic development as expressed through *our place on the knowledge wave*. The two clauses are subordinates to *we will all be victims*. Here several inferences are packed densely together:

1. Economic development will only occur if GE technologies are allowed to be pursued outside the laboratory.
2. Research on GE technology has been occurring for some time and this is just a continuance of what has already been happening, thus establishing GE technology as something normal and hardly worth questioning.
3. The research is safe and controlled. This is asserted even though the moratorium had been put in place precisely because New Zealand did not have the mechanisms to properly regulate GE science.

4. That if GE outside the laboratory is not allowed all New Zealanders will become economic victims, just as Margy Gilpin has supposedly become a victim. An unreasonable equivalency is set up between the uprooting of experimental potatoes and the possibility of economic disaster for everyone in New Zealand.
5. The reason New Zealanders would all become victims is that *50% of our economy is directly derived from the land. The land links anaphorically back to agriculture, thus suggesting that the current economy derived from the land is the same as potentially massive advances for New Zealand agriculture which would be gained through GE technology.* That is, if we do not allow GE technology to go ahead 50% of our economy would be at risk. This statement also infers that New Zealand agriculture could not develop without GE technology. Ironically, in her *Growing An Innovative New Zealand* report, the New Zealand Prime Minister stated: ‘... the biotechnology sector itself represents only about one percent of GDP’ (Clark, 2002: 52) and genetic technologies were only a component of that.

The next paragraph introduces Margy Gilpin as the authoritative academic. She now becomes Dr Gilpin, and *points out that there is no sane basis for the horror stories being promoted by certain, anti-GE factions.*

Dr Gilpin and her knowledge of ‘facts’ is contrasted with *certain, anti-GE factions* who only tell *horror stories* which apparently have *no sane basis*. The use of the adjective *certain* to modify *anti GE factions* indicates that these factions are known but unspecified. In this way, the writers of the advertisement can avoid naming the Green party, specifically, which would have opened them to litigation. Instead, they imply that the Greens, and by association anyone that votes for them is not sane. Gilpin’s characterisation of the messages of the pro GE groups as *horror stories* and in the third column, *unproven myths* belittles the claims of the anti-GE groups as being ‘beneath science’. As Lyotard says:

The scientist questions the validity of narrative statements and concludes that they are never subject to argumentation or proof. He classifies them as belonging to a different mentality: savage, primitive, underdeveloped, backward, alienated, composed of opinions, customs, authority, prejudice, ignorance, ideology. Narratives are fables, myths, legends fit only for women and children. At best, attempts are made to throw some rays of light into this obscurantism to civilise, educate, develop (Lyotard 1984: 27).

Not only are the anti GE people unscientific (and therefore irrational) and given to telling stories and myths but their sanity is in question as well: *As Dr Margy Gilpin points out, there is no sane basis for the horror stories being promoted by certain, anti - GE factions.*

Gilpin, in direct speech now, follows these accusations with some unreferenced figures. The layout of the advertisement has her standing authoritatively next to her direct speech, literally, standing by what she says (but on the other side this time). The figures give a chimera of proof, but because the reader has no idea where the figures come from, there is no way of tracing the assertions; they simply cannot stand as 'facts'. The strategy is all the more patronising to the reader since Gilpin and her supporters understand the accepted academic conventions of supporting facts and arguments through referencing (Gilpin was, after all invited to a prestigious academic conference) but assume that the reader will believe unsubstantiated figures. The referencing of Patrick Moore's opinion later in the advertisement suggests that the copywriters are not so sure the reader will believe a founder of Greenpeace supporting the development of GM food.

Gilpin goes on to explain that *while you have to take every precaution as you would with any research project*, New Zealand has the strictest regulations (she does not say what in) so the country is apparently safer than anywhere else in the world. This was a remarkable statement indeed since the moratorium on the release of GE organisms had not been lifted and the full extent of regulations around GE field trials had not been developed. In addition, the statement appeared just over a week after the release of Nicky Hagar's (2002) book explaining how New Zealand's testing mechanisms for the importing of corn seed had failed to pick up genetically modified seeds; that the government had known about it and had allowed the GE corn to be grown in fields across the country. The use of the determiner *any* prior to *research* suggests that GE research is no different from other types of research, thus inferring that people are unreasonably singling out GE research when all research requires precautions.

In direct speech again, Gilpin is quoted as stating that New Zealand could be *the world leader in GE technology*. It was recognised that New Zealand could develop some products from its agricultural base that might be globally significant but to say it would be *the world leader in GE technology* was a large exaggeration and served to further inflate the benefits of GE. The next sentence says: *Scientists have been studying the safety and potential of crops since the first field trials at Lincoln in 1988* The statement does not specify whether this research has been GE or not. If GE research has been carried out at Lincoln University since 1988 it

has been happening without rigorous national regulatory frameworks in place and has therefore not been ‘safe’ or ‘regulated’ (the point of the national moratorium has been to allow time to develop such regulations).

Gilpin then states that if *research* (GE is implied but not stated) is not allowed to continue *we risk losing our place on the knowledge wave*. *Our place on the knowledge wave* is a repetition from the top paragraph in column three and serves to emphasise the crucial stage New Zealand is supposedly at – somewhere on the knowledge wave. This statement again implies that there is such a thing (as a knowledge wave) and that New Zealand currently has a place on it, neither of which is ‘true’. The repetition of the metaphor reinforces the notion that unless GE field trials are allowed to go ahead New Zealand’s economic performance will slip. There is no evidence or reference to support this allegation. Others have argued that agricultural GE technologies will ruin New Zealand’s clean green ‘brand’ and cause economic problems for New Zealand (Elworthy 2002). The use of the past participle *continued* to modify the noun *research* at the bottom of the second column (*continued research*) echoes the lexicalisation in paragraph one of the same column (*continued, controlled, safe research*) thus emphasising the claim that GE research has been going on for a long time and that there is therefore nothing to worry about.

In the two paragraphs of direct speech Gilpin firstly uses the generic pronoun *you* to draw the reader in, as though she were talking directly to them. The personal pronoun *we* then enables Gilpin to identify with the reader: she is ‘one of us’, a New Zealander. It suggests that *we* should be like Gilpin and do the correct, rational thing and support GE. In the next sentence the personal pronouns change: *We* becomes *they*, the people. This shift from ‘we’ to ‘they’ differentiates Gilpin and her colleagues (scientists) from ‘the people’. The suggestion is that scientists are providing something the people ‘need’, they are not just doing research for their own satisfaction (or professional advancement). The sentence has semantic links back to the first paragraph in column one where Gilpin’s potatoes are described as *fast growing, disease resistant, nutritional yet humble*: potatoes for ‘the people’.

Still in direct quotes, Gilpin is quoted as saying: ‘*People need to be able to make choices about the food they eat by being informed with accurate information and not being misled (sic) by unproven myths*’. As this thesis has explained earlier, there is a particular historicity around the word ‘choice’ in New Zealand; it has been routinely collocated with ‘consumer’. For example, in a regional newspaper *The News*, the Prime Minister, Helen Clark was

indirectly quoted as stating that ‘... the authority (ERMA, Environmental Risk Management Authority) had very strict criteria and food labelling regime (sic) would also give consumers choice’ (*The News* 2002). A key tenet of neoliberal theory and therefore governance is public choice theory (PCT). As explained in chapter four, in New Zealand this, combined with other neoliberal theories, saw the fundamental restructuring of the public sector to simulate markets where they had never before existed (e.g. education and health). Such changes were justified through arguments reconstructing New Zealanders as consumer/taxpayers rather than as citizen/producers, thus elevating the concept of strict individualism over communitarian concepts such as ‘the public good’ and implying that individual choice in all things was a virtue. Lack of choice has been associated in New Zealand with the ‘bad old days’ of heavy government regulation and state control, particularly by the right (see, for example Hazeldine 1998 and Jesson 1999). In the current text, Gilpin is insinuating that people currently lack choice in the food they have access to (this is despite New Zealand being well known for having secure and easy access to a wide variety of fresh, high quality food) and that only by introducing GE foods would people have a choice.

In providing the reference to and quote from Patrick Moore, founder of Greenpeace, ... *a man who is greener than most* ... the advertisement writer is able to repeat the root word green, thus suggesting solidarity with the Greens. The Life Sciences Network, therefore, attempts to capture the argument both ways: by casting aspersions on ‘certain, anti GE factions’ and at the same time claiming common ground and solidarity with others, i.e. Patrick Moore. The apparent incongruity: a founder of Greenpeace supporting the production of genetically modified foods, is further emphasised in the one liner and well known idiom: *food for thought* followed by the interrogative *isn’t it?* The idiom, of course, refers to the Patrick Moore reference but the lexical chaining of genetically modified food in the previous paragraph with food in this one suggests that *genetically modified food* itself is something to think about, perhaps not to dismiss out of hand. The Patrick Moore reference does not provide a page number, title of article, nor a context for the quote, so while the quote is referenced, the reference is so scanty it would be an effort to find. In addition, the article appeared in a newspaper unknown to New Zealanders. One is left wondering therefore just how accurate it is.

The next paragraph begins: *And it’s worth remembering that cautious, controlled research into GE technology is here for one reason: to help make New Zealand – and the world – a*

better place. Having been invited to think about Patrick Moore's suggestion that '... *the campaign of fear being waged against genetically modified foods is based mostly on fantasy*,' the reader is now told to remember that research into GE technology only exists for altruistic reasons: to make New Zealand and the world a better place. Since earlier statements have linked research into GE technology with economic growth through *riding the knowledge wave*, the text sets up an equivalency between economic development and making New Zealand and the world a better place. This view is espoused also by Helen Clark's Labour Government (see for example the *Tertiary Education Strategy 2002/2007* (Ministry of Education 2002) and *Growing an Innovative New Zealand* (Clark 2002)). The claim helps to combat accusations by the anti GE lobby that genetic engineering is potentially harmful to the earth's natural ecosystem. The first sentence of the last paragraph: *If we do not allow safe research to continue in New Zealand, we will all pay the price* implies that safe research is not going to be allowed if the moratorium is not lifted. In fact, at the time, genetic research was allowed in contained laboratories where this had been authorised by the Environmental Risk Management Authority (ERMA).

The advertisement was designed to look like a full-page feature story rather than an advertisement. It appeared in black and white, contained headlines and sub-headlines, captions under pictures and was placed in the first section of the newspaper (in *The New Zealand Herald* it was on page A8), the section associated with important, current news. Its advertisement 'status' was stated on the bottom outside border in small print. The website address for the Life Sciences Network at the end of the text gave an up-to-the minute sci-tech flavour and pseudo authority to the argument, resembling the trend in feature articles to provide websites for the readership to get further information.

Another story?

Like the *myths* and *horror stories* it disdains, the advertisement relied on non-scientific knowledge to try to convince the reader that GE research outside the laboratory and GE food production must go ahead. In some ways it was so emotional and obviously political that one had to wonder whether the advertisement had the opposite effect to what was intended. Some voters may have been insulted at the cynical and obfuscatory tactics used to sell GE to the public.

By trying to emphasise the safety of GE research in New Zealand the text constantly drew attention to the significant risks involved (see table below) if it was not carried out correctly.

Statements drawing attention to risks involved in GE research

<p>Fully contained lab</p> <p>Continued controlled safe research</p> <p>You have to take every precaution</p> <p>Strictest regulations</p> <p>Fully approved testing</p> <p>Safety factor</p> <p>Cautious controlled research</p> <p>Safe research</p>
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This repeated hedging throughout the advertisement suggested that if something did go wrong, the results could be devastating. In a post-Chernobyl, post Three-Mile Island world there is certainly a public awareness that science is fallible and mistakes will be made despite promises to the contrary (see Weingart 2002). A GE example is an FDA investigation into the improper disposal of bioengineered pigs at the University of Illinois. Between April 2001 and January 2003, university researchers sold 386 offspring of transgenic pigs to livestock dealers, claiming that they did not inherit the inserted genetic material from their parents. It was impossible for the FDA to verify the researchers' assertions, however, because they '... did not conduct sufficient evaluation or keep sufficient records to assess whether the offspring inherited the inserted genetic material' (FDA 2002:1).

Moreover, if anyone had followed the various stories on Gilpin they might have reached the conclusion that she was rather fanatical about her research and unreasonably intolerant of anyone with views which were not the same as her own. For example, she called the people who broke in to the lab *idiots* (Cohen 2002) and appeared in an advertisement labelling them *anti GE fanatics*.

Lyotard (1984) argued that the development of scientific knowledge is inextricably tied up with technological development and it is this knowledge known as techno-science which is fundamental to the continual regeneration of capital. Insofar as governments understand this

connection they are committed to supporting and being supported by science and business, (increasingly the distinction between the two is blurred). The Gilpin advertisement (Life Sciences Network 2002: A8) appeared to strongly constitute this interdependence in the lead up to the 2002 election. *The New Zealand Herald* ran a story the day after the advertisement was published (Collins 2002b) pointing out that AgResearch and Crop and Food Research (taxpayer funded science organisations) had contributed \$180,000 to the campaign which had included pro-GM kits for all election candidates except those from the Green party and the Alliance. The advertisement was dubbed pro-Labour although this was denied by Francis Wevers, ex journalist, PR person and Executive Director of Life Sciences Network. He told *The New Zealand Listener* that this was ‘bullshit’ and said:

In the end, we decided the (election) issue was about GE and the critical questions about that are far too important for us not to be in the public domain providing what we consider to be objective, factual information (Bone 2002: 29).

However, as evident in this analysis, the advertisement provided no factual information. Rather, it obfuscated a number of issues and deliberately misled the reader. The advertisement raised the important question as to whether social justice is possible (in this case the right to have important social/health/environmental issues debated fully) in a milieu of what Chris Trotter (2002b) labelled the ‘... unholy alliance between big government, big business and big science’. The Life Sciences Network had strong vested interests in seeing the moratorium lifted in October and were willing to put substantial taxpayer and private money behind ensuring the election outcome was in their favour. It was. The 2002 New Zealand election delivered a centre government with a centre right coalition partner, United Future. The Greens were left with little power in government and the lifting of the moratorium was accomplished on schedule in October 2003.

Multisemiotic texts like this and the close-knit institutional, bureaucratic and professional/expert relationships of interest (including financial interest) and power that they reflect and instantiate suggest that a closer inspection of what is done in the name of science and knowledge is necessary. As noted earlier, ‘... knowledge and power are simply two sides of the same question: who decides what knowledge is, and who knows what needs to be decided? the question of knowledge is now more than ever a question of government’ (Lyotard 1984: 9). These connections and co-productions of power also suggest that there is a need to examine science discourse as a social practice which is produced by and produces

configurations of power. These configurations do have material effects on political and social lifeworlds as this analysis has indicated.

Conclusion

Under the Labour-led coalition's strong policy focus on economic improvement, research and its close discursive cousin innovation moved from the wings to the centre stage. They were perceived to be the drivers of New Zealand's push for the knowledge society and to take New Zealand back up into the top half of the OECD rankings. The business/science/university/government nexus was more firmly constituted than at any time in New Zealand's history. In the process, certain forms of knowledge generation became marginalized and others increasingly dominated (for example biotechnology). Arguably, aspects of the democratic process were given cavalier treatment along the way (Collins 2002b).

As a key discursive statement, innovation appeared to perform well for the Labour-led coalition government. It sounded optimistic, politically neutral, even exciting, and in this respect it was hardly challenged. Constantly invoking the statement innovation was a way the government attempted to create a shared vision, apparent certainty in uncertainty (if nothing else it would be innovative) and uniformity in diversity (innovation might result in a lot of things but it will still be innovative). Significantly, academics and their universities were also exhorted to fuel New Zealand's economic steam train with their 'research and development' on the way to the knowledge society by the newly established TEC (West 2003: 8). In this sense innovation, 'a variation of capitalised knowledge' (Hayrinen-Alestalo 2001: 207) increasingly colonised academic knowledge's monopoly as 'the model of knowledge' (Hayrinen-Alestalo 2001: 206) and replaced earlier understandings of scientific enquiry as a search for new knowledge and free problem setting.

Innovation appears to be a Third Way spin on neoliberal discourses closely linking instrumentalist understandings of technology and knowledge with economic performance. It implies even higher permeation of all life forms, including education by business and economics, and the valuing of constant unpredictability, instability, risk and competition. A full page *New Zealand Herald* report on research and development in 2003 (Freeth 2003) underscored the very real possibility that all the hyperbole around innovation and biotechnology as its key symbolic incarnation may have been counterproductive for the research and development sector. In reality it may have diverted research away from

traditional agricultural research which Freeth asserted had 'driven significant wealth creation in (the) economy' (Freeth 2003).

Chapter Eleven

Conclusion

Still there is something new: the relation to time (I am tempted to write “the use of time”) that reigns today in the “public space”. Reflection is not thrust aside today because it is dangerous or upsetting, but simply because it is a waste of time. It is “good for nothing” it is not good for gaining time. A book, for example, is a success if its first printing is rapidly sold out. This finality is the finality of the economic genre (Lyotard 1988b: xv).

Introduction

This study of research policy has been undertaken in the belief that the policy stories we tell ourselves about knowledge and its creation, and about what knowledge has value and what knowledge does not, are important signifiers and determiners for how societies produce and reproduce themselves. These narratives form discourses which have material outcomes for people’s lives and from this point of view they are important to problematise. Thus the thesis has examined the way research has been constructed through policy and related texts in the domains of tertiary education and national science in New Zealand. It has argued that research policy in the tertiary education and national science domains has been constituted by the wider discursive formation of neoliberalism in New Zealand. It has also made the case that these two domains of policy generation, but most particularly national science, have also been productive of this wider discourse. This was notable during and after the Foresight Project as the knowledge discourses from the project began to reshape the National government’s thinking on the value of its key knowledge producing institutions, the universities. Subsequent to the 1999 election the knowledge discourses went mainstream and in turn constituted policy in tertiary education as well as in a range of other areas.

The particular contribution of the thesis has been in its sustained examination of policy discourse over two ostensibly discrete domains of policy and practice during a twenty year period. In western societies universities and national science systems are the two key, still largely taxpayer funded, sites of codified knowledge generation and this is also true for New Zealand. However, by no means are they the only sites of knowledge production. As Lyotard (1984) predicts, completely private as well as interstitial (public-private) research organisations have literally mushroomed over the past twenty five years and have had a constitutive effect on the way research is approached in publicly funded research

organisations as well (Slaughter and Rhoades 2004). New Zealand has closely followed this trend albeit on a relatively small scale compared to jurisdictions like the United States where truly ‘big science’ has grown out of space and defence research programmes. Nevertheless the two sites that this thesis concentrates on are significant in scale in the New Zealand context. Moreover, in New Zealand as in other western countries the discourses that constitute policy in these domains have become the signifiers of the new knowledge economy, shaping how we think not only about research but also about economic and therefore social life. As Fuller (1997) observes, however, science and research policies do not routinely attract electorate attention and so what governments do in these areas is hardly ever debated publicly. For this reason alone they are worth analysing in some depth.

Perhaps surprisingly, however, the situation changed in New Zealand in the 2002 election when science issues specifically concerning genetic engineering arguably altered the outcome of the election (Harvey and Crothers 2004). The election highlighted just how tightly imbricated the interests of government, business and science (in both the universities and national science organisations) had become. It also demonstrated the close interdiscursivity of the two policy domains.

The period that the thesis has covered has been marked by two apparently distinctive periods of governance. The first we can think of as being from 1984 through to the 1999 election when governments were strongly committed to key facets of neoliberal theory and wanted to arrange national resources and institutions accordingly. This study picks up the research policy ‘story’ from about 1984 when Treasury released its first briefing paper for the incoming government: *Economic Management* (Treasury 1984). The more recent period from 1999 has been termed ‘the Third Way’, a form of government which purports to introduce an altogether different framework ‘... one that avoids both the bureaucratic, top-down government favoured by the old left and the aspiration of the right to dismantle government altogether’ (Giddens 2000: 2).

The thesis argues, however, that in the field of research across both domains policy and practice has become progressively *more* competitive, instrumental, performance focussed, technicist and integrated into economic policy than it was previously. Partly this is because the Third Way approach to governance is to thematise wealth creation and international economic competition as the only path to social cohesion and wellbeing. Crucially, knowledge is seen as the lifeblood of high economic performance. Partly it is because the

Third Way came after the Thatcherite/Reagan wave of neoliberalism and the discourses of this era literally stuck and even intensified in some fields as people no longer had the discursive resources to talk about and do these things differently. The knowledge society, hailed by Third Way governments in Great Britain and New Zealand as the new utopia, might rather be seen as a period underpinned by intense positivism: ‘... industrial society’s final frontier’ (Fuller 1997: 76). Gibbons et al (1994) explore the properties of ‘new’ knowledge, the supposed fuel of the knowledge society (mode two: transdisciplinary, contextual and organisationally diverse), and juxtapose it with a traditional mode of knowledge (mode one: production which is generated within a traditional disciplinary context inside a bricks and mortar university structure). They argue that mode two knowledge production is about much more than producing knowledge ‘for the market’. They say:

... knowledge production in Mode 2 is the outcome of a process in which supply and demand factors can be said to operate, but the sources of supply are increasingly diverse, as are the demands for differentiated forms of specialist knowledge. Such processes or markets specify what we mean by the context of application. Because they include much more than commercial considerations, it might be said that in Mode 2 science has gone beyond the market. Knowledge production becomes diffused throughout society. This is why we also speak of socially distributed knowledge (Gibbons et al 1994: 4).

They also note that *knowledge* and *science* have traditionally been used as synonyms or collocated into *scientific knowledge*. They suggest that Mode 2 invites a wider interpretation of knowledge and embraces the humanities which share many characteristics with it. Reflexivity and social accountability, for example, are integral, they contend, to both. In their 2001 publication, Nowotny, Scott and Gibbons (2001) state:

... that the emergence of more open systems of knowledge production – Mode 2 science – and the growth and complexity of and uncertainty in society – Mode-2 society – are phenomena linked in a co-evolutionary process science and society have both become transgressive; that is, each has invaded the other’s domain, and the lines demarcating the one from the other have all but disappeared (Nowotny, Scott and Gibbons 2001: 245).

Rather than adopting this somewhat benign interpretation of the new conditions of knowledge developed by Gibbons et al (1994), Tim Luke (1998) advances Lyotard’s (1984) position: that this new form of knowledge production is performative knowledge, that is knowledge which gains power and profit; knowledge which groups and then reconfigures, often digitally, in

order to follow the funding to solve the problems which will provide the competitive edge in a global input/output matrix. Mode two knowledge saves capital from coming up against the limits of its own conditions of being. Performativity, the quest for profit, 'success' and greater and greater efficiencies in the system, construct capital's path to power. Through financing the technology to produce the best new 'proof' (innovation) and therefore the best 'truth' capital self-legitimises itself. This is ultimately problematic for democratic societies when knowledge, computerisation and privatisation converge and the privatisation of knowledge outweighs publicly circulatory knowledge. The argument advanced in this thesis is that increasingly the knowledge produced as an outcome of the knowledge society discourses and related practices is techno-scientific and targeted for private consumption. Unless a wide variety of research policy discourses remain available, knowledge for enlivening, protecting and nourishing societies and cultures will be increasingly difficult to generate.

Discursive changes

In New Zealand we can ironically (given the neoliberal obsession with administrative capture) talk of the discursive capture that took hold in the 1980s and which has proved remarkably difficult to resist in the intervening years, as have the practices which it constitutes. The purpose of the study has been to examine in detail how a narrow economic discourse has become sedimented (Gale 1999) in the policy and related texts in the fields of tertiary education and national science.

A key change in research discourse especially for the universities came with the extensive tract on education in *Government Management* (Treasury 1987b). In this document university research was described for the first time in New Zealand as something that might be optional for a university, something that might not be integrally related to university-level teaching and something that could just as easily be performed elsewhere. The discursive moment might be described in Foucauldian terms as a rupture, a break with the way university research had previously been constituted in New Zealand. In effect, the passage on research (see chapter five) signalled the beginning of a new discursive formation for research, one that was heavily characterised by economic discourse. Key statements used to describe research at this time would be recycled through policy documents, some for just a few years while others would be repeated into current policies. For example, the *Government Management* (Treasury 1997b) description of research as an 'entrepot' activity was recirculated in the Hawke report (Hawke 1988) and then seems to have dropped out of usage in educational policy discourses. Other

concepts, though, continued to be repeated and recycled through the ensuing twenty years. For example, the possibility that only postgraduate level teaching needed to be carried out by active researchers was first mooted in *Government Management* (Treasury 1997b) and has continued to be raised in key tertiary education policy documents (Ministry of Education 1997b; 1998) including the TEAC review (TEAC 2001b) as a way of spreading the education (and particularly the research) dollar further.

The way research was described in *Government Management* (Treasury 1987b) was in line with key neoliberal theories such as public choice theory and agency theory, and elements of these theories have also been recycled into current research policies in the tertiary education sector, most intensively in some instances under the Labour-led coalition government. In chapter nine, for example, the neoliberal policy threads running through the PBRF have been examined. These include its very *raison d'être*: to hold academics accountable; its concomitant emphasis on performance and quality; its splitting of research and teaching funding; a strong ethos of individual and institutional competitiveness; a focus on 'investment' for 'production and creation of leading edge knowledge' (Ministry of Education and Transition Tertiary Education Commission 2002: 7); and the desire by government to have an apparatus to control, 'know' and regulate the academic research market. All of these features of research policy can be found as recommendations in the Hawke report (Hawke 1988).

For those who did not subscribe to the ascendant neoliberal theories of the fourth Labour government (1984 -1990), the thesis has shown that it was still necessary to play the neoliberal language game in order for policy advice to be considered admissible. For example, the Report of the PSRWP (1989) offered substantively different advice on the organisation of 'post compulsory' research and scholarship from the Hawke report and it was this advice that the Labour government worked into legislation. Nevertheless the committee followed its set terms of reference in agreeing to the development of a part contestable system for distributing university research funding, reducing at least to some extent non-prioritised research funding available to academics. As Lyotard (1984: 17) observes, 'We know today that the limits the institution imposes on potential language 'moves' are never established once and for all (even if they have been formally defined). Rather, the limits are themselves the stakes and provisional results of language strategies, within the institution and without'. In a sense the PSRWP was playing and testing the neoliberal language game, giving way on some points (a

contestable research funding pool) in order to 'win' the bigger game: the unification of the majority research and teaching funding and the avoidance of an elaborate surveillance mechanism for academic research.

The strength of the universities, their threat of legal action, and the consultative and resistance work of groups like PSRWP meant that wider neoliberal discourses did not immediately result in major shifts in university research policies at the end of the 1980s. However the neoliberal template of institutional disaggregation of policy, funding and production was introduced to a science sector already under funded and lacking in confidence given the plethora of reviews it had been subject to since Labour's election in 1984. Naively perhaps, many in the science institutions welcomed the changes, believing them to be a way of reinvigorating the sector. Once the science sector was swiftly restructured along PCT and AT lines, it was then considered to be in the research and policy vanguard. In reality the sector appears to have been thrown into disarray and arguably has never recovered (Freeth 2003). Chapters six and seven make a case that the tectonic shifts in the science sector also shifted the discourse for tertiary education research. The 'commonsense' idea at the time was that university research ought to take account of the national science sector rather than the other way around. The rationale for this understanding was simply that science was operating under the new neoliberal policy blueprint and since university academics 'performed' the same 'function' (research) they should be organised in the same way.

In the early 1990s the newly elected National government purportedly committed to privatisation and reduction of funding in every sphere ironically promised increased funding for the science sector (Peters 1994). This was because the restructured sector was progressively viewed as having potential for driving economic recovery. The paradox highlighted to the universities just what might be achieved by playing the neoliberal language game. The universities were keen to access additional research funding and also eager to explain to government their own research capacities particularly in areas thought to be well suited to underpinning economic performance (NZVCC 1991). The NZVCC Discussion Paper (1991) recycled the neoliberal discourse on research (including statements such as outputs, priorities, performance, accountability, innovative products and research as a means to economic progress) in order to gain government attention (and increased funding) for university research. Soon after the full science restructuring, the universities were admitted

into the PGSF in order to expand the competitive ‘research playing field’ and give them access to more financial research support.

An important addition to the language game of research that had its roots as far back as *Economic Management* (Treasury 1984) was the notion of ‘public good’. This statement, defining itself against the neoliberal norm of private goods (Marginson 1997), first appeared in discussions over tertiary education in *Economic Management* and *Government Management*. It was recycled through the Hawke report (Hawke 1998) and appeared as the title of the major contestable science fund in the restructuring of the science sector: The Public Good Science Fund (PGSF). The statement caused all kinds of problems for those assessing the efficacy of the new science system (Science Funding Review Panel 1991) not least because the system was paradoxically required to drive economic development and yet restrict itself to the funding of basic research that would be beyond the interest or scope of the private sector. When the Labour-led coalition was elected in 1999 the title of the fund was unceremoniously removed and replaced by a raft of other funding mechanisms expressed as ‘goals’ for ‘investment’ rather than funds per se (with the exception of the Marsden Fund) (see for example Hodgson 2002). This at least took away the paradox of having a fund that had overwhelmingly funded research for the private sector being named the Public Good Science Fund. Under Labour there would be no such paradox and government money would be directed explicitly into supporting private sector R&D in the interests of national economic development: viz Technology New Zealand, New Economy Research Fund (Hodgson 2002).

From the mid 1990s the new knowledge discourses entered New Zealand policy circles primarily through the Foresight Project (see especially MORST 1998). The project was developed within MORST as a reprioritising exercise for the science sector. However, the exercise, under the leadership of a new CEO, James Buwalda, was ambitious in that it also attempted to integrate business and (to a lesser extent) other sectors in society with the science system ‘... as a basis for developing a coherent and forward-looking view of needs and opportunities for new knowledge and technological change’ (MORST 1998: 5). In invoking the inevitability of a corporatised, globalised, competitive and highly technologised future for New Zealand, Foresight (MORST 1998) discursively constructed a narrow range of possibilities for what would count as value ‘able’ science and research for the country. The focus was on the development of research which would result in innovative, high value-added products. A key criticism of Foresight was that it had left the major knowledge producing

institutions, the universities, out of the knowledge and Foresight 'story', a considerable omission. Foresight proceeded contemporaneously alongside the National government's economically 'dry' tertiary education review. The resulting green and white papers (Ministry of Education 1987b, 1988) seemed so out of step with the new knowledge discourses that the National government sidelined its own white paper in favour of a freshly launched *Bright Future* package published by the Ministry of Commerce (1999) just months before the general election.

Throughout the period of the study there has been an almost stable discursive hierarchy of the economic over the social that has rarely been inverted. This may not have been so surprising in the realm of national science but in the tertiary education research domain it certainly shifted the focus from research which had been primarily concerned with extending disciplinary knowledge and informing university level teaching. From 1999, the Labour-led coalition, through the SIAC reports (SIAC 2001; 2002), MORST's i3 policy (MORST 2003), the Growth and Innovation Framework (Clark 2002) and the Tertiary Education Strategy 2002/2007 (Ministry of Education 2002a) bolstered the emphasis on economic performance through the pervasive use of the innovation statement. This became shorthand for the development of profit 'able' knowledge products, patents and services by industry but also by public institutions, including the universities. Chapters nine and ten argued that the mainstreaming of innovation since 2000 took a highly marketised version of science into society which virtually drowned out alternative discourses, especially in tertiary education. For example the universities increasingly diverted funding into projects and schemes that might foster and support innovation: the establishment of business 'incubators', new biotech courses, and sophisticated new intellectual property policy documents which would secure patents for university discoveries, services and products. In addition, internal university research systems increasingly mimicked government policy and funding priorities in the establishment, for example, of predominantly IT and science focussed research centres. The establishment of contestable research funding pools at departmental, faculty and university level were a routine part of the university research landscape by this time.

The policy texts of PBRF (see, for example, Ministry of Education and Transition Tertiary Education Commission 2002) considerably amplified older neoliberal discourses of excellence, performance, quality and accountability in academic research and linked them with the new knowledge discourses of the knowledge society (see Ministry of Education and

Transition Tertiary Education Commission 2002 and Ministry of Education 2002a) and innovation (Ministry of Education 2002a). Ironically, perhaps, the most elaborate technology of control over New Zealand academics and their research was introduced by a Labour-led government wanting to differentiate itself from old style neoliberalism (Taylor 2005). Others have already pointed out that the attachment of strong neoliberal theories and discourses to Third Way government policies (see for example Giddens 2000) is actually an inherent facet of the so-called Third Way. Many neoliberal statements that constituted research discourses in the 1980s and early 1990s displayed strong fixity over the years and crossed policy fields with ease. For example, the MORST idea that research would produce 'outputs' and that these would be measured and tracked closely was materially repeated in the PBRF system where the lynchpin of assessment falls on the quality of the NROs or Nominated Research Outputs. Moreover, the PBRF system was integrated into the national science funding system through the emphasis on external funding as a direct measure of research quality. While external research funding could include funds gained from industry and other sources, everyone knew that the real prestige markers were research grants from the key government science research funds: those administered through MORST, the Health Research Council (HRC) and the Marsden Fund.

The extended textual analysis in chapter ten imbricates many of the interdiscursive threads that have produced and been discursively produced through the period by a strong emphasis on research for economic development in science and tertiary education research. The GE advertisement (Life Sciences Network 2002: A8) was financially supported by business as well as taxpayer funded science organisations, including two universities. Scathing of anyone with a differing point of view, the advertisement employed scaremongering and highly emotional tactics to try to convince the public to support its view. As the analysis demonstrated, the full page newspaper advertisement did not convey any well supported facts for the public to base their decisions on. Rather, it constructed its own truth regime in an effort to sway voting behaviour. The case study highlighted the strongly interconnected interests around biotechnology in New Zealand. It also demonstrated the length (and expense) those interests would go to make sure that the electoral outcome was in their favour. Mounting an alternative point of view with any chance of 'winning' seemed much harder in New Zealand after the public relations 'spin' on GE.

Further research

It became apparent during the course of this study that, generally speaking, we need in New Zealand, ‘... a better understanding of the conditions that inform knowledge production and reception’ (May 2005) and this includes state as well as non state conditions. The present study primarily forms an analysis of state policy discourses, although not exclusively. I have also looked at discourses produced through media channels and the universities themselves. However, Foucault has pointed out that state power (and its constitutive discourses) is only one form of power and a concentration on this runs the risk of overlooking all the other mechanisms and capillaries of power and discourse that ensure that things are the way they are: these other mechanisms ‘... often sustain the State more effectively than its own institutions’ (Foucault in Gordon 1980: 72). This section therefore suggests some gaps in the knowledge base around research practices and policy that are ripe for further investigation. Some of these involve the state and its institutions, while others fall outside these parameters. Many however, sit in between and will require a shuttling back and forth between state institutions and the private sector. This is because the character of Third Way politics and developing knowledge societies demands that the lines between government and the private sector become increasingly blurred in order to support, strategise for and increase economic competition. The current situation is also the outcome of a long period of stringent neoliberal governance in New Zealand where many government institutions and services were readied for full privatisation and their employees had to shift their subjectivities accordingly (from professional public servants/researchers/scientists to entrepreneurial businesspeople).

One area worth building knowledge in would be an actor-network study of those involved in the science and tertiary education restructuring across the 1980s, 1990s and 2000s. For example, in science and tertiary education research policy, several actors, Foucault’s ‘agents of liaison’ (Foucault in Gordon 1980: 62), appear again and again in different domains (state, interstitial and private) and working across both National- and Labour-led governments. Perhaps most active across the two sites (tertiary education and national science) was Dr Andrew West. Dr West worked for the DSIR as a soil scientist between 1982 -1988. He was actively involved in the science reforms of the early 1990s and was science advisor to both Margaret Austin (Labour) and Simon Upton (National). Significantly, he was the convenor of the task group that wrote the report recommending the number, size and role of the CRIS: *Crown Research Institutes: Crown Research Institutes: Research Companies for New Zealand* (Ministerial Science Task Group 1991). West became company strategist for

AgResearch (a CRI) in the mid 1990s and CEO of the Institute of Geological and Nuclear Sciences in the late 1990s. In 2000 and 2001 West was CEO of the New Zealand Qualifications Authority and then moved to the newly established Tertiary Education Commission (TEC) as fulltime Chair. Most recently he has been appointed as CEO of AgResearch (AgResearch 2005). Of considerable interest is an assessment by West himself of the efficacy of the science restructuring changes that he had been so closely involved in. He believed that, ‘AgResearch has veered off course by putting its own profits ahead of supporting farmers and the companies that serve farmers’ (Collins 2004c: C5). One might expect that if a CRI was established as a company it would indeed put its profits ahead of those of others. In 1999 AgResearch adopted a goal of becoming ‘a global \$200 million life sciences business by the year 2004 (Collins 2004c: C5). By contrast, the DSIR had had as one of its explicit roles to support the agricultural sector by carrying out research that was of direct benefit to them. The headline of the *New Zealand Herald* article by Simon Collins (2004c: C5) discussing the changes that West intended to make at AgResearch may have contained just a hint of sarcasm: ‘Past becomes future for new AgResearch’.

Examples of two other key players in the development of New Zealand research policy are:

1. Throughout the 1990s, Rick Christie a professional director and company chairman, served the National-led government in various key roles crossing the fields of science and business. For example he served on the Prime Minister’s Enterprise Council from 1991 – 1996 and in 1996 was appointed Chairman of the Technological Innovation Working Group. Christie also served as Chair of SIAC under the new Labour-led government and was Chair of AgResearch at the time of Andrew West’s appointment as the new CEO of AgResearch (AgResearch 2005). Christie is also Chair of the Growth and Innovation Advisory Board.
2. Russell Marshall was Minister for Education in the 1980s, chaired TEAC after Norman Kingsbury stepped down, became High Commissioner in London and has now replaced Andrew West as Chair of TEC.

Slaughter and Rhoades (2004: 12) have written ‘We have come to see colleges and universities (and academic managers, professors and other professionals within them) as actors initiating academic capitalism, not just players being ‘corporatised’.’ Another field of investigation then, might be a case study of one or several New Zealand universities, looking

at how the new research discourses have driven systemic changes in the university and vice versa; for example the development of university supported research centres and interstitial research organisations like business incubators (see for example, *The New Zealand Herald* 2002b). Such a study could also examine what new positions have been created and what their ‘research effects’ have been e.g. Deputy/Pro Vice-Chancellor Research, research deans/associate deans. None of these changes were ‘required’ by government research policy. They were in the end internal management choices and might be a strong example of how biopower works through subjects to appropriate, extend and instantiate discourses. As Foucault (in Gordon 1980) has suggested ‘biopower’ can sometimes mean that managers’ subjectivities are constructed as more positivist and instrumental than the government policies themselves. An example is given in chapter nine of a suggestion in one university of linking human resource databases with the PBRF database so that research performance could be immediately linked to other employee details. This was never suggested, much less required, by TEC

Another related focus for research would be the ‘effects’ or reception of government level policy on the internal research policy and practices of organisations and vice versa. For example, in some universities otherwise unnecessary restructuring has been undertaken in order to *look* more strategically attractive for external and government funding (e.g. more latterly biotechnology and creative industries). In some cases (AUT is one example) internally funded Centres of Research Excellence have been established in universities as a mirror response to the government policies. A British example is the University of Keele where the Pro Vice-Chancellor for research, Maggie Pearson, said ‘in an increasingly competitive market, a small institution such as Keele needs to position itself best to compete in learning and research. We are selectively funding because that’s what Government’s policy is’ (Shepherd 2005: 5).

One more area that would prove illuminating in the New Zealand context particularly given its still strongly marketised science structures, would be to follow the life cycle of different types of research projects and programmes across a variety of institutional contexts (universities, CRIs, polytechnics and in private institutions such as Fonterra). Such an investigation could attend to how differing levels and types of funding, levels of personnel skills, institutional context and research areas have had differing impacts and outcomes. Important too would be a strong consideration of the effects of predominant discursive

formations and the way these construct choices in funding and other decisions even at the point of deciding what research problem should be posed in the first place (Scheurich 1994).

PBRF lends itself to a longitudinal study which should look at how research foci of academics, disciplines and universities shift over time to accommodate and 'play' the funding/surveillance system.

Wider studies of 'knowledge' institutions and the policy discourses that set their frame for action are also important. Probably this is true for all countries but perhaps nowhere more so than in a small country like New Zealand where the distance between academics, funders and government is not great. As Tolich and Davidson (1999: 77) observe, research conditions in New Zealand are 'unusual in the developed world.' One might think of researching in '... New Zealand as though it is a small town'. Everyone knows everyone. Certainly, it has been uncomfortable and potentially professionally damaging (less research funding, less prestige, even possibly loss of employment) to work against the neoliberal metanarrative, particularly through the 1990s (Codd 1998, Cartner and Bollinger 1997).

This thesis argues *for* institutional differentiation in the sense that our national science institutions should generate qualitatively and quantitatively different research from our universities because the two institutions exist for different purposes. Obviously there will always be overlaps and hopefully productive collaborations. However, it is not the case that university research should necessarily be organised and funded in an identical way to national science. Michael Cullen's recent assertion that academics need to 'prepare students for the challenges of the new economy, and ... focus their research effort on questions that are relevant to the issues New Zealand faces...' (Cullen 2005: 3) does not necessarily suggest that the new Minister for Tertiary Education is aware of the difference between research in the national science system and in universities.

It is imperative in New Zealand that we do gain a stronger and well-critiqued understanding of how research discourses and their associated practices emerge, circulate, sediment and disappear. As this thesis has argued, so much practice (including research practice and research policy setting) appears to be constructed through taken-for-granted discourses that are 'too much on the surface of things' to be easily and convincingly critiqued in everyday institutional settings. Yet the kinds of knowledges that are produced as a result of these discourses and indeed the knowledges that don't get produced or remain submerged are more

than ever a question for civil society. To take a simplistic example perhaps, if there had been much less funding of defence research in the United States of America the defence technologies would not be so advanced and there might not have been the willingness on the part of the American government to wage war against Iraq. Closer to home, a focus on organics research rather than GE in New Zealand would shape agricultural life and the New Zealand economy in quite different ways. In a cycle of repeated materiality (Foucault 1969) the knowledges produced through research are themselves discourses and serve to co-construct the policy and wider societal narratives.

And finally...

To put all or at least the majority of New Zealand's research 'eggs' in the economic performance 'basket' seems like a recipe for disaster. In the process the country and its constitutive institutions may divert resources from other differently value 'able' (as opposed to profit 'able') research. In the New Zealand context one might cite vulcanology or Maori mythology as non profit 'able' research areas. In neglecting these possible fields of inquiry New Zealand could miss what is really important: the country needs to understand and monitor volcanoes in order at least to provide warning when one is about to erupt; and aspects of Maori mythology may enable a more nuanced insight into early New Zealand history. In his discussion of the performativity criterion and its demand for the impossible (a perfectly stable all-knowing system) Lyotard (1984: 55) cites a note from Borges (1954: 131-132) which illustrates the waste and possible disaster resulting from putting all one's resources towards the pursuit of one end: 'An emperor wishes to have a perfectly accurate map of the empire made. The project leads the country to ruin – the entire population devotes all its energy to cartography.'

New Zealand universities are well placed to and currently do still generate a wide variety of research and research practices which inform, critique and challenge their equally widely varying communities, including students, other academics, the community, government and business. Although this research catholicism continues to exist it needs nurturing and building to survive and flourish. As Marginson and Considine (2000) suggest, the invigoration and sustenance of the academic heartland is a priority. This may involve privileging the views of academics over managers as well as providing space and funding for people to 'be' differently in terms of their research (see, for example, Roberts forthcoming 2007). In New Zealand the strong PBRF requirement for external funding of research (in effect, client-based as opposed

to academic-generated research production) alone threatens to alter the contours of university research particularly but not only in the humanities and social sciences. Will anyone engage in relatively cheap but potentially important archival work if it cannot attract external funding? The across-the-board external funding requirement has turned the academic's responsibility to carry out research and the university's duty to provide time (at least) for that to happen into a desirable yet additional extra (if we can get the money). Under these conditions research cannot remain something that is integral to the organic workings of the university.

Moreover, in the 2000s there seems to be little difference between science and commercial activity. To maintain diversity in our systems of knowledge production, the national science system should produce a wider variety of research, including research that does not slip easily into existing path dependencies (Fuller 2000). The system's still marketised structures put research decisions in the hands of research managers (MORST in terms of policy setting and FORST in terms of funding) rather than scientists and researchers. Research decisions are subject to high level government priorities which consistently privilege the economic over the social. In this environment established research path dependencies close off or at least limit the pursuit of alternative research which may be more significant than the relentless pursuit of so-called innovative, internationally competitive, technologised knowledge products and services. The important point is that knowledge does not exist only as a commodity. There are many kinds of knowledges (including indigenous knowledges) and as many of them as possible need to be harnessed to ensure the sustainability of the planet, much less the human race.

This thesis has performed an extended critique and analysis of dominant research/knowledge policy discourses in New Zealand. In doing this it has presented perhaps some rather pessimistic views on where we are currently heading as a country and as a small arm of the 'west'. The verdict is that neoliberal discourses over the last twenty or so years have overwhelmingly constructed researchers and the knowledge they produce as highly instrumental, overwhelmingly positivist and performance focussed, both in terms of research performance and economic performance. This, of course is not the whole story. As noted above a wide variety of research still exists in our universities at least, although there are indications that it may be narrowing (closing down of non-profit 'able' courses and the research expertise that goes with them; the reduction in the capacity to critique as retiring staff

are replaced by academics in more fund 'able' research areas). Where there are metanarratives which set power 'full' frames for action and therefore the formation of subjectivities, there is a strong sense of power 'over' and perhaps researchers (including myself?) have a tendency to stress this aspect of discourse (Bacchi 2000). Lyotard reminds us, however, that this does not deny agency '... not even the least privileged among us, is ever entirely powerless over the messages that traverse and position him at the post of sender, addressee or referent' (Lyotard 1984: 15). Foucault's theory of discourse and power highlights how agency and resistance is produced *through* power and discourse:

Discourses are not once and for all subservient to power or raised up against it, any more than silences are. We must make allowances for the complex and unstable process whereby discourse can be both an instrument and an effect of power, but also a hindrance, a stumbling block, a point of resistance and a starting point for an opposing strategy. Discourse transmits and produces power; it reinforces it, but also undermines it and exposes it, renders it fragile and makes it possible to thwart it (Foucault 1978: 100-101 in Mills 1997: 44 - 45).

In this sense, research and the people who perform it are always in the process of 'becoming' (May 2005) particularly at this time when the universities, especially, are rapidly changing their shape. There are therefore still (and always) choices (perhaps not easy ones) that can be made inside and outside the university as to what research should be undertaken, how it might be funded and who might do it. This is true also of the national science system although more difficult to do in practice because of the severely disaggregated system. And so, while research in postmodern society seems to be a ruined ideal (Readings 1996) which has come to be governed wholly by the economic genre, John Ziman (1994: 276) has suggested some key requirements for research which institutions and the government might keep in mind for invigoration and diversity of research in our sites of knowledge production:

- social *space* for personal initiative and creativity;
- *time* for ideas to grow to maturity;
- *openness* to debate and criticism;
- hospitality towards *novelty*; and
- respect for specialised expertise.

Successive New Zealand governments cannot seem to see their way in policy-making past creating a strong economy for New Zealand. The primary role for New Zealand science and tertiary education research seems only to be economy building rather than the formation of a

vigorous, democratic society. And yet more than ever the west, including New Zealand, needs as many checks and balances on political and economic power, and as many resources for reflection, critique and the generation of fresh perspectives and ideas as they can muster. Throwing all our intellectual resource into the same contestable, competitive market fest for knowledge devalues, debases and controls ideas and research to the point where original (truly innovative?) and critical thinking becomes unwelcome and makes a mockery of any romantic notion of a knowledge society which governments would like to construct.

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