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Capitalism, Class, Care and Craft

A Discursive Journey Around the 1900 Act to Make Better Provision for Manual Technical and Commercial Education in New Zealand

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In grateful memory of my mother

Ellen Jane Halliwell

a weaver, who refused to let me follow in her footsteps



The Author and Students in Cookery Class at Hindley County Secondary School in 1964

Abstract

This historical education policy development case study covers the years 1877 to 1917. Critical Discourse Analysis (CDA) of Parliamentary Debates and Reports are primary sources used to address the 'how' and 'why' questions relating to the policy which was formalized in 1900 as *An Act to Make Better Provision for Manual, Technical, and Commercial Education*. Secondary sources are also used to examine social, political and economic issues, in particular the dominant discourses around Capitalism, Class, Care, and Craft. The thesis argues that the 1900 Act is a model of 'top down policy' development, with a small number of powerful men making moral decisions around educational development that were based on technical rationality and its corollary social Darwinism rather than on egalitarianism and social mobility. It is also argued that the 1900 Act demonstrated a strong link between the state education system and its economic instrumental role in meeting the needs of the capitalist mode of production. The analysis of state rhetoric surrounding policy development continues to be as relevant today as it was in 1900.

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Chapter 1: Introduction

This historical case study is a discursive analysis of the social, political, economic and educational antecedents that underpinned the legislation entitled, *An Act to Make Better Provision for Manual, Technical, and Commercial Education* (hereafter the 1900 Act) (Statutes of New Zealand. 1900. No. 39. p. 215). The short title of this act is:

“The Manual and Technical Instruction Act, 1900”; and it shall form part of and be read together with “The Education Act, 1877” (hereafter called “the principal Act”).

This thesis examines the years between the passing of the 1877 Education Act, *An Act to make further Provision for the Education of the People of New Zealand* (hereafter the 1877 Act) and 1917. The first of these dates coincides with the introduction of free, compulsory and secular elementary education to New Zealand. The second date is significant because during that year domestic education was made compulsory for female students wishing to access free places at secondary school. The focus of this study is to develop a better understanding of the ‘why’ and ‘how’ questions of the 1900 Act, a state initiative to extend manual and technical education through state funded institutions during the years of compulsory education.¹ Only passing reference will be made to Native and Maori Secondary Schools because in general these institutions lie outside of the scope of this study.

At the end of the nineteenth century Parliamentary Debates revolved around the basic premise that state provision of schools would allow everyone equal access to standardised education. Manual and technical education had been on the state agenda since the 1877 Act was passed. Prior to this time there were several disparate institutions in New Zealand offering manual and technical education that served a range of purposes. These were usually vocational, in the very narrow sense of being directly linked to specific employment. Sometimes they reflected overt purposes of social control, as in Industrial Schools, and in the case of the Native Schools their additional benefits to the state of fostering assimilation into the dominant European culture.

The 'common-sense' rhetoric on the legitimization of vocational education is evident in this statement by Director General of Education George Hogben. It is one:

... in which a certain part of the work is brought into close contact with the facts of life in which the boy or girl finds himself or herself and with the aims and objects of the most probable calling that he or she will follow in the future (cited in Openshaw, Lee, & Lee, 1993, p. 118).

This makes perfectly good sense at one level, since schools are by their nature always linked to preparation for adult life. However the ideology expressed in the above citation exemplifies what Codd refers to as "determinate representations (i.e. statements that claim to convey "intelligible relationships between elements of social reality)" (cited in Harker & Nash, 1990, p. 145). The deterministic notion that the students' backgrounds or 'facts of life' are key indicators of school success and career prospects has been shown empirically often to be the case (Lauder & Hughes, 1990; Nash, 1990, Harker, 1990). However, settlers coming to New Zealand did not want their children's 'facts of life' to be static, they were ambitious for improvement.

Attempts in 1889, 1890 and 1893 to gain parliamentary support to extend manual and technical education failed (Nicol, 1940). However, the 1895 *Manual and Technical Elementary Instruction Act* (hereafter the 1895 Act) signified symbolic acceptance of it by the state. This was an important move towards general acceptance of the idea but it was the 1900 Act that included increased funding, the vital ingredient for effective policy development. The 1900 Act was an attempt to impose a broadening of curricula on the secondary system. When this move was strongly resisted by the Secondary Schools, Technical High Schools were established that set up a system of education directing some children towards vocational education. Such a separatist system should have been an anathema to the egalitarianism on which the 1877 Act and New Zealand society was built. Indeed, there was little public demand for an education system based on manual and technical education. Nor was there any interest from the industrial sector. Notably, this was not a settlement² made by the state in response to pressure from groups we now call stakeholders. On the contrary, as early as 1888 Otago's school inspectors had proposed that while the curriculum in the District High Schools was far too academic, this situation:

... seems to be supported by the majority of rural parents who are mainly interested in the provision of inexpensive ways in which their children can qualify for public examinations (McKenzie, Lee, & Lee, 1990)

Nor was there a push for major educational changes from the business and commercial sector (Nicol, 1940).

Major retrenchment by the state, following the long depression (discussed in Chapter 3) suggests that such an initiative was a major disjuncture in contemporary state policy, particularly so given that many of the suggested provisions of the 1877 Act remained incomplete. This Act had established a system of management that could have accommodated changes to educational pedagogy, curriculum and evaluation without recourse to setting up an alternative system. So, why did the state undertake such a major financial commitment to extend manual and technical education at this time? In order to answer this the study examines the following key questions.

Key Questions

1. What were the primary reasons why the New Zealand State undertook a commitment to establish and support manual and technical education through the 1900 Act to make better provision for Manual, Technical and Commercial Education.

2. How did the above Act reflect the dominant social, political, economic, and educational discourses of the era?

3. Who were the key players that were responsible for the Act?

This Chapter identifies the parameters of the study and introduces key terms to provide a backdrop against which the arguments in subsequent Chapters will be set out. Multiple discourses around the concept of 'technical' will be discussed. I argue that the way in which manual and technical education developed in New Zealand was based on discourses that did not just reflect the British context but had become integral to a culture that had its basis in the Renaissance and the Enlightenment and the associated scientific revolution. From this arose a culture of positivism that supports detachment, objectivity and the independence of researchers. This assumes theory-neutral, value-free observations within a rhetoric of impartiality, all of which place faith in science to solve any technical and political problems (Olssen, 1987). This faith and the belief in positivism were central

to the classical liberal ideology that had dominated western civilisation after the Enlightenment. It also underpinned pre-revisionist accounts of the history of education.

In order to make sense of the discourses of any particular era it is necessary to understand past events and the practices from which they emerged. Industrialisation, urbanisation and contested politics were all impacting on social, political and economic aspects of life in New Zealand during the era of this study. These, I argue, were pivotal to the production of the policy on which the 1900 Act was based.

After reading the literature, four discourses emerged as dominant in justifying what was essentially a new approach to educational provision. Three of these capitalism, class, and craft dominated the development phase while the fourth, care, emerged after the passing of the Act and related to the education of girls. A synopsis of these discourses is outlined below.

Capitalism, Class, Craft and Care

Capitalism is an economic system based on the private ownership of the means of production and the distribution of the goods or services. This structure underpins the way we live socially, and the relationship between the economic system and and the way in which society develops, is integral to policy development in education:

Capitalism, a social form when it exists in time, space, population, and history weaves a web of myriad threads; the conditions of its existence form a complex network each of which pre-supposes many others (Braverman, 1974, p. 21).

According to Marxist theory the capitalist class own 'the means of production' and those who work for capitalists sell their labour for wages and produce goods or services. This results in the division of the population into two basic classes, capitalist and labour. There is however, always a relationship between capitalism, the state, and education (Bowles & Gintis, 1976; Offe, 1984; Olssen, Codd, & O'Neill 2004). Taxes from public and private sectors fund welfare and education. The education system must, in turn, serve the needs of the state and society. I use the term state here in the sense used by Gramsci who proposed that the:

... state should be understood not only [as] the apparatus of government but also the private' apparatus of 'hegemony' or civil society (Gramsci, 1971, p. 261).

The state is not a unitary thing but consists of a complex and large number of organizations and structures, such as public service authorities and statutory authorities such as Treasury and Social Welfare. The state "translates values, interests and resources into objectives and policies" (Davis *et al.*, 1993, cited in Taylor *et al.*, 1997, p. 19) and these processes work collectively towards multiple outcomes to manage society. A key role of the state is to protect and sanction a set of institutions and social relationships that support capitalism, but it must also consider the needs of all members of society.

The relationship between production, the economy, state and education is complex. As governments change, discourses around this relationship also change. The symbiotic relationship between technology, capitalism and the state ensures the creation of a particular type of political state. Technology is the key to wealth generation, wealth that is required to meet political demands and the legitimacy of the state (Braverman, 1974).

Class is a key system of stratification emerging out of the organisation of production in modern capitalist industrial societies. Marxist theory separates society into two classes, labour and capital, a very simple definition of class but one that probably reflects very closely New Zealand society in the 1870s. Between 1890 and 1930, however, a "social and economic pattern began to emerge" (Shuker, 1987, p. 49). One aspect of this was a more complex class system, in particular the establishment of a new middle class (Ibid).

One way to improve class position is through education and the possibility of 'social mobility' that it offers. Settlers in New Zealand may not have used this term but the idea was integral to their practices as they sought better lives for themselves and their children (Shuker, 1987, Simons, 1994). They were working people who came to New Zealand believing that this was "not a flight from starvation but a short road to abundance" (Thompson, 1859, cited in Shuker, 1987, p. 37).

Craft capability is central to manual and technical education. At the end of the 19th century, however, machinery and scientific management were supplanting handcraft skills in industrial production methods. The expansion of craft activity into school curricula, the usefulness of which was now surpassed in the production sector, would seem only to make sense if it served specific educational objectives. This anomaly raises questions about the

purpose of manual and technical education as an integral aspect of compulsory study and I argue that the answer to this lay not so much in a need to foster expertise in 'technical' skills but was linked to the scientific management structures of capitalism and the need for a compliant, unskilled workforce – one willing and able to carry out instructions. Apple, using Braverman's analysis suggests that:

Our economic structure requires the continual division and breaking down of complex skills into less complex and more standardised skills ... economic control may be helped by the lack of prestige given to such craftsmen (cited in Apple, 1979, p. 38).

The rigid training exemplified in the 'lockstep' pedagogy of manual and technical education involved students carrying out the exact activity demonstrated by the teacher in a rigid step by step controlled routine. Factory floor values of a uniform, standardised curriculum instilling qualities of obedience, malleability and punctuality are emphasised. Personal development through problem solving and expressions of individuality did not feature in this model.

It is important to remember that during the latter part of the 19th century New Zealand was undergoing a transition stage from a pre-industrial society to a capitalist one and, as Olssen (1995, p. 4) proposes, over a very short time New Zealand experienced two industrial revolutions in rapid succession.³ This is the reason such pedagogies were introduced into education.

Care of home and family through domestic education was a key ideology that supported cultural and societal reproduction. Preparation for the domestic role was integral to the capitalist mode of production, which depended on reproduction of the next generation of workers and the maintenance of the existing labour force. The 'common sense' assumptions that care was the 'natural' role of women were deeply entrenched in liberal thought and in British and New Zealand society. But in this country it became instituted and perpetuated through the formal education system in the early 20th century (O'Neill, 1996).

Schools are never neutral, rather they are a microcosm of the society in which they function. Schools always reflect the ideas, beliefs and values of the most powerful groups in society. One way of understanding how this legitimating process occurs is through the

use of Critical Discourse Analysis (CDA), which is a way of understanding how dominant ideas transfer across generations and through distance. It is a mode of action, a way of analysing how people act on the world and on each other. The dialectical relationship between discourse and social structure reflects the relationship between social practice and social structure (Fairclough, 1992). Discourses both shape and challenge the way in which people develop their values and ways of being, and this occurs through language as well as through signs and symbols. Discourses may be both limiting, for example, 'boys don't cry' or emancipatory, 'girls can do anything'. Most importantly discourses may be challenged and the process of 'interrupting' dominant discourses is a key tenet of critical thinking and a precursor to bringing about change.

The ideology of egalitarianism has been premised as a guiding concept of New Zealand society since early settlers arrived here. In reality, the management of the classless culture that they expected, rested in the hands of a few wealthy landowners and merchants. In education this meant that those with money were able to build schools and pay fees to access the elite, academic forms of education expected of the middle and upper classes. In this way cultural difference and privileges were maintained. The 1877 Act made education the first social welfare system to be made available through the state and this offered the chance of upward mobility to the working classes. As Shuker (1987) argues, while there was a qualified commitment to egalitarianism, the civilising value of education was also a major factor used to support its introduction. Inequalities of educational outcomes remained subsumed and accepted as an element of the natural differences based on class, race and gender. I argue that the 1900 Act reinforced this ideology.

So although settlers had expectations of achieving social mobility in an egalitarian society they brought with them a set of dominant discourses from the highly structured, classed and gendered culture in Europe, mostly Britain. *Dominant* discourses are the most powerful ideas that become so deep-seated and normalised that they take on the status of 'common sense'. They shape individuals into the norms and values of that culture. They become the "prevailing way that a culture talks about or represents something" (Thomas, 2004, p. 213).

‘What’s Past is Prologue’

(Shakespeare, *The Tempest*)

... men and women who risked the 19,000 kilometre journey to the Antipodes were determined that the injustices, exploitation and poverty they were leaving behind should find no purchase in these new lands. The dead weight of tradition and the expectations of a politically entrenched ruling class had made reform exceedingly difficult in the lands they were leaving (Trotter, 2007, p. 64).

Determination to throw off the ‘dead weight of tradition’ was not easily achieved and for early settlers their ‘taken for granted’ way of doing things was not easily discarded. Dominant discourses were as integral to the ways they viewed and shaped their lives as were their basic necessities for physical survival.

The settlers who arrived in New Zealand in the 1870s left Britain at a time when there was an extension of elementary education there. This was considered an “improving social movement”, a way to eliminate drunkenness, prostitution, child labour and poverty and to enhance social control. Access to education was believed to be a way to draw the lower classes away from lives of abject degradation, further intensified by the industrial revolution and the terrible living conditions in which “the lower orders lived”, especially in London and the bigger cities (Selleck, 1968, p. 5). These living conditions were an accepted part of a highly stratified and rigid class culture. Education in New Zealand was believed by settlers to be the key to the better life they sought. It was an idea presented by politician Sir Robert Stout speaking during the 1880s:

As soon as the labourer is educated he will have his rights; he will have his rights though all the capitalists in the world declare he should not, because he will organise, and if he is faithful to his fellows the battle will be won (Sutch, 1966, p. 67).

In order to understand the potency of the cultural heritage of British settlers in relationship to the discourses surrounding the 1900 Act, I will briefly outline the historical origins of these ways of thinking. This was a cultural heritage shaped by ideas founded in

Greek and Roman philosophy, later fashioned by worldviews arising from the Renaissance, and then by the Enlightenment and the associated scientific revolution.

The Enlightenment and the Scientific Revolution

By the beginning of the 18th century Sir Isaac Newton's research into mechanics had established the principles of scientific determinism – the belief that all events have preceding causes. This view of knowledge shaped Western thought for more than three hundred years.

Classical liberalism that emerged from this historical era provided the guiding principles and ideological rationales for the reproduction of the political, social and economic systems on which Western societies were based. Discourses embodying the political nature of liberalism include, democracy, constitutional government, rule of law, popular sovereignty, consensual and minimalist government, all of which are directed at the central ethos of upholding the freedom of the individual. These discourses were all underpinned by the assumption that the rule of law would work towards the good of all in society (Olssen *et al.*, 2004). They were affiliated with the liberal view of human nature that “each individual is driven in the pursuit of the gratification of these ideas, desires and appetites by the faculty of reason” (Ibid, p. 75).

Isaac Newton's story of God creating the universe as a self-propelled machine (Canterbery, 1995) was later utilised in Adam Smith's (1776) ‘invisible hand theory’, which centered on the belief that any interference with free market competition, which encompassed laissez-faire philosophy, no tariffs or subsidies, no government interference, a floating exchange rate and open economic relationships, would destabilise the natural order. Market mechanisms were viewed as natural laws working in the interests of commerce. In this way competition and individual self-interest became accepted as both a force for economic expansion and market regulation (Ibid).

The later Darwinian revolution further reinforced laissez-faire ideals and also underpinned political movements for social efficiency, which were imbued with technocratic rationality and emerging throughout the ‘developed’ world towards the end of the 19th century. Social Darwinism justified imperial expansion and exploitation and underpinned contemporary racism (Harker, 1993). Eugenics was also an extension of Social Darwinism, based on the work of Francis Galton (1867), *Hereditary Genius* (cited in Shuker, 1987), which argued that all natural abilities are inherited. A corollary to this is

the belief that humans like animals could be bred to ensure mental and physical superiority and ultimately produce an enhanced breed of people.

Positivistic views are based on the assumption that empirical-analytical science is the only rational way of 'knowing', and technical management the only rational form of 'action'. These assumptions have become central to the management of Westernised societies. The views of 'experts', interested predominantly in the efficient harnessing of 'means' rather than the concerns about the 'ends', were adapted to fit this ideology. Discourses of standardisation, rationalisation and scientific and technological determinism are all key precepts of technical rationality. These management theories were also applied to state education.

The discourses of Social Darwinism and Eugenics were particularly powerful in education because of their position within the 'scientific' realm and they were also used by the state to justify extending manual and technical education to groups considered to be naturally suited for a life of low status, menial and mindless work. The power of this hegemony reinforced the idea of leaders and followers, and is well captured by the newspaper the *Australian Register* in 1898:

Some young folk may be exactly suited to educational equipment as the future, 'captains of industry' but this remark does not apply to the majority.... The chances of heredity cause the big brains and the large capacities for work and leadership to occur sporadically.... Numerous young men have no taste or aptitude for special technical studies. These may have their useful places in economy of industry, but they will never act as leaders (cited in Miller, 1982, p. 10)

The idea that laws of natural selection could be applied to the social realm of human life was both anti-egalitarian and undemocratic, and quite contrary to egalitarian principles, but in the context of a liberal polity the unequal distribution of wealth and power was seen as evidence that natural selection was working (Kliebard, 1995). Social programmes that might upset the balance were shunned because of the deep-seated belief that the 'fittest' would always prevail and social equilibrium would be thus maintained.

The liberal view of education places faith in the neutrality and objectivity of scientific and technical rationality. The discourse of meritocracy reinforces this view and

encompasses the belief that IQ, plus access to education, plus effort, will always guarantee that the brightest will rise to the top and either maintain social status or achieve social mobility. All other aspects of human characteristics and culture are discounted, and sociological experiences based on class, gender and race, which we now realise are integral to school achievement, were marginalised. The discourse of egalitarianism, which for so long sustained the liberal ideology of educational provision, was seen as having been achieved if access to education was available, the rest was believed to depend on individual effort.

In New Zealand, the liberal progressive view of education (Shuker, 1987) remained largely unchallenged as the framework for educational policies throughout the 20th century. It rested on assumptions that education created social change, was capable of redressing social inequities, and that the culture transmitted through schooling was autonomous and independent of society (Dale, 1989).

By the end of the 19th century the laissez-faire doctrine of classical economics was beginning to be partially challenged by utilitarianism and there was a movement towards policies that embraced the concept of 'utility'. Utilitarianism, which at its most simplistic means the greatest good for the greatest number, slowly overshadowed 'natural rights' philosophy (Olssen, 1997, p.395) and underpinned approaches to societal well being. This shift is an example of the way in which liberal views are not incontrovertible but:

A socially and historically variable set of discourses, the interpretation of which has been altered and reshaped but certainly not disfigured out of recognition, to reflect its modernity (Olssen *et al.*, 2004, p. 74).

The Enlightenment and the scientific revolution had provided a framework for British culture and therefore the dominant cultural discourses of settlers. In addition the transfer of systems of education to New Zealand also reflected the British culture. Manual and technical education in Britain pre-dated even Enlightenment thinking and demonstrates how the rich and powerful controlled the options of the lower classes. The British elites defined early ideas about manual and technical education that had endured through time and distance to re-surface as dominant discourses in late 19th century New Zealand.

Discursive Antecedents: Manual and Technical Education in Britain

Apprenticeships for boys were the earliest form of organised manual and technical education in Britain from the 16th century onward. These were *ad hoc*, initially private, and based on the teaching of craft skills by members of Guilds. From homes where poverty was the norm (pauper children could be apprenticed compulsorily), children lived and learned alongside their employer/teacher. Apprenticeships declined in number when, following the mechanisation of factories, owners could no longer spend time training them. In Britain this decline was used by the state as a reason for increased access to technical education (Donnelly, 1989).

Schools of Industry established by the state in the 17th century also catered for poor children (Peters, 1963) and combined learning in practical skills with basic numeracy and literacy. These schools were linked to technical and economic change, in particular the establishment of the factory system. The rise in capitalism in 18th century Britain increased the need for skilled labourers to mind and operate machines. Craft skills alone had become superseded by systems requiring:

... some understanding of scientific principle Literacy in the vernacular and the ability to make calculations became general requirements in the population as a whole ... The need for universal education, combining manual and verbal training, began to become apparent (Peters, 1963, p. 144).

The state was thus a key instigator in providing a literate and numerate workforce which indicated this early instrumental role for education.

The Health and Morals of Apprentices Act of 1802, made it compulsory for employers of more than three apprentices to provide part-time daily instruction in the three 'R's during the first four years of a seven year apprenticeship. This was reinforced by the 1833 *Factories Regulation Act* which directed that children under 11 could be employed only if they attended school for two hours a day, six days a week (Ibid). Grammar Schools were available for children of wealthy families to prepare boys as doctors, lawyers or priests and by the end of the medieval era in Britain two forms of education were available – technical and secondary:

... one provided the manual and the other the verbal skills which society needed ... and verbal occupations had a higher social status than manual (Ibid, p. 142).

From the early 19th century, Mechanics Institutes were established to cater for adult education. Based on socialist and Chartist philosophy these provided the chance for working class artisans to better themselves (Ibid). Many of these British educational institutions and voluntary organisations and their associated ideological underpinnings were well established in New Zealand by 1877 (discussed in Chapter 3).

Britain's poor showing in international exhibitions of manufacturing excellence between 1850 and 1878 thrust both compulsory school attendance and technical education under the spotlight. The paucity of both was viewed as possible reasons for the decline in Britain's industrial superiority. There was a successful push for compulsory education in 1876 but on-going dissonance around technical education (Ibid).

The 1867, The Schools Inquiry Commission's Report *Relative to Technical Education*, published by the British Government, warned against neglecting the application of Natural Science to the industrial arts and encouraged the linking of technical education to pure and applied science. Peters (1963, p. 149) suggests that by 1902 the Board of Education in Britain had "revived the earlier class-limited and narrow concept of technical education". He noted that by 1906 children going out to earn their living in the ranks of commerce and industry were expected to receive "a kind of education that is likely to make them efficient members of the class to which they belong" (Ibid).

In summary, manual and technical education in Britain had its foundations in working class vocationalism, the sort of education that was assumed to have direct bearing on the preparation for specific life roles either in employment or unpaid work after school. As the workforce in Britain grew, the growing capitalist economy required new skills. The provision of these increasingly became the responsibility of the state and this led to universal education. That is, it was technical development that was the driving force for education in general and technical education in particular. Parallel with these approaches to education was the ideology that while "*some* education for the 'lower orders' was deemed necessary to secure a social peace, *too much* (my emphasis) education for the lower classes was held to be dangerous" (Selleck, 1968, p. 15). This was representative of the discourses around Eugenics and Social Darwinism discussed earlier. It was assumed by elite groups

that this would disturb the natural order by removing people from their allotted station in life.

Technical skills, especially those involving practical rather than intellectual activity, were related to the specific historical and cultural norms of different societies. By the early 20th century Wood Jones and Elliot Smith were beginning to describe anatomical evidence correlating the evolution of hand, eye and brain (Peters, 1963; Selleck, 1968). This proved to be a particularly powerful argument for promoting manual and technical education, built as it was on medical evidence.

Social Influences on Technical Development

Societal status attached to technical activity changes across time and cultures. The Romans disdained manual labour, leaving it to slaves, while the Jews believed that every boy should be taught a trade (Peters, 1963). In Maori society, *te tangata ringa raupo* (those gifted with their hands) are people of status, and those achieving expertise in a particular field of craft skills become teachers and pass on their knowledge in *Te Whare Para* (place for the chosen). Technical know-how was integral to every facet of sustaining life through the skills of catching, growing, storing and preparing food and enhancing life through carving, weaving and *tuku tuku* (personal correspondence Helena Baker⁴).

Early European settlers to New Zealand also needed technical skills to survive and most earned their living through different forms of technical know-how. A central discourse of New Zealand culture originated in the physical terrain that had to be broken in. This led to a national respect for the number 8 baling wire capability of the quintessential Kiwi male, tinkering in his workshop, armed with a handful of tools and innate 'nowse'. In this environment the connection between masculinity and technical ability became entrenched. Many traditional female activities also require skills in manual dexterity and tool use and were also integral to the establishment of New Zealand as a viable nation. These were rarely, if ever, recognised as technical activities. One reason for this is that technical expertise has historically been seen to be the social property of males and basic to the process of becoming a man (Cockburn, 1983). This idea permeates all spheres of the public and private, and is reflected in the gendered segregation of the job market, the intimate relationships of family life and the separate-spheres ideology of technical education, which reinforces:

The construction of men as strong, manually able and technologically endowed, and women as physically and technically incompetent (Ibid cited in McKenzie & Wajcman, 1992, p. 23).

Technology both shapes and reflects the sort of society in which we live, and enables us to realise certain wishes. In doing this “we change our conceptions of ourselves and of our world” (Street, 1992, p. 10). Whether we subscribe to the ‘technological determinist’ theory that technical development ‘shapes’ society, or the ‘social constructivist’ theory that incorporates an integral relationship between people, technical objects and systems, these systems both shape and express political values that operate to benefit some groups and disadvantage others. Neither of these theories can maintain an exclusive position since technological systems can never be separated from political processes, nor can politics be analysed independently of technology (Ibid). Once we accept the interrelated nature of politics, technology and education, many of the puzzling ‘how’ and ‘why’ questions of curriculum, pedagogy and assessment of both technical and technology education become clearer. Technical innovation like education can never be neutral or value free:

... technology becomes, like our economy or our political system, an aspect of the way we live socially. It becomes something whose changes are part of wider changes in the way we live (McKenzie & Wajcman, 1992, p. 3).

Early settlers came to New Zealand with first hand or familial experience of two industrial revolutions in Europe and the accompanying social revolutions of the 18th and 19th centuries. State rhetoric on its value must have evoked mixed emotions because many had experienced the brutal reality of these technical and societal changes on individuals, families and the wider society.

Subject Status

As I argued earlier, scientific and technical thinking is the dominant source of authority in Western culture and therefore carries very high status. Why then does technical education carry the stigma of a low status school subject? The answer revolves around the important distinction between *levels* of technical education with *technologists* as the upper echelons, *technicians* as the middle group and *tradesmen* as the lower levels

(Currie, 1956). While only a few of the first group are required and need high status qualifications in science and technology, many more are required to work within the capitalist structure and fill low status jobs.

Subject status is linked to historical and societal attitudes that also determine the worth of credentials gained in these subjects.⁵ These sort and select students for employment and also legitimate the cultural capital held by some students and not held by others (Shuker, 1987, p. 119). The failure of technical education to gain examination status in High Schools was one reason suggested for the low status of the subject. This is summarised in the 1914 statement from the Wellington Board of Inspectors:

... so long as success or failure at the formal written examination continues to be practically the only public criterion of the efficiency or value of our education system, so long will courses of instruction in which practical training forms an important feature be depreciated in the eyes of both pupils and parents, (*Appendices to the Journal of the House of Representatives* (hereafter cited as *AJHR*), 1914, cited in Openshaw *et al.*, 1993, p. 114).

At secondary level elitist forms of academic education, those that led to university, were favoured by the middle classes. They could afford the fees that ensured access to such institutions as the Auckland Grammar School and Otago Boys' High School. These schools were based on the preservation of the humanities and liberal traditions (Shuker, 1987). This sort of education was considered the 'best knowledge' and had always dominated education in Britain and in New Zealand since before the 1877 Education Act (McKenzie, 1992). It is characterised by academic curricula, a considered body of knowledge and highly specialised vocabulary, and is conceptualised through rigid subject boundaries (Codd, Harker, & Nash, 1990; Harker, 1990; Shuker, 1987). This was a direct transfer from Britain where the mark of a gentleman in early 19th century Britain was linked to qualities acquired from receiving a classical education which conferred status.

Academic high school boys in New Zealand in the 1920s captured this idea concisely. They commented on the low status of technical education and its associated perceived lack of social graces, as opposed to their own (supposed) high status and good manners, as seen in the following chant:

With the hob-nailed boots and the unwashed neck, they don't come here
they go to the Tech (Dakin, 1973, p. 27).

Manual and technical education is the antithesis of high status, academic education (Peters, 1963; Selleck, 1968; Lewis, 1995). It is based on practical activities and offers strong potential for cross-curricular approaches but lacks a clearly defined body of knowledge and the ensuing university status. The vocabulary, while specialised, is technical in nature or aligned to everyday 'down-to-earth' discourse. Application of such pseudonyms as 'preparation for life' or 'skills for living' reinforce manual and technical education as an element of working class culture, essentially a vocational subject. This idea is strengthened through its early association with apprenticeship schemes for boys and domesticity and training as servants for girls.

Technical Education: An international Phenomenon

Battles for the control of education in the late 19th and early 20th centuries were being waged throughout the developed world (Kliebard, 1995; Selleck, 1968). Control of school curriculum, pedagogy and assessment was sought by social reformers, economists, practical educators, naturalists, scientists and moral educators, all of whom wanted the opportunity to promote their ideological beliefs through public education systems. These conflicts produced new approaches to education often referred to as the 'new movement'. Common elements of this approach included a less bookish and examination-bound education and stressed the need for more science education. It was based on the need to recognise the intellectual value of hand/eye exercises, the development of 'thrifty habits' in the lower classes, and was in general a supposedly more 'relevant' education. Manual and technical education had the potential to incorporate these criteria and was becoming a central feature of proposed changes in Australia (Miller, 1982), in America (Kliebard, 1995) and in Britain (Peters, 1963; Selleck, 1968; Donnelly, 1989).

In New Zealand by the end of the 19th century, the push for national 'supremacy' in technical development and its corollary, a skilled workforce of trained artisans, was becoming a dominant discourse in Parliamentary Debates (discussed in Chapters 4 and 5). Within modern capitalist economies technical change is inextricably linked to economic enterprise and market competition and pressure from beyond the country will exert "massive pressure for technical change within" (McKenzie & Wajcman, 1996, p. 14). The

push for technical education in the late 19th century can be seen as one aspect of the dawn of a 'modern capitalist economy' for New Zealand.

The following extract from *the Twenty-Second Annual Report on Education* by the Minister of Education William C. Walker to the New Zealand Parliament in 1899 demonstrates his belief in the need to expand the states commitment to implementing the 'new movement' in New Zealand:

... the Act of 1895 is bearing fruit by educating public opinion and by preparing the way for larger and more comprehensive measures. What has been done in Great Britain, in America, and on the Continent of Europe has become more widely known through the medium of public journals and magazines, and the recent publication of Mr. A. D. Riley's Report on "*Manual and Technical Instruction*" has undoubtedly stimulated the minds of people throughout the colony, and tended to remove misconceptions as to the aims and methods of the new movement on education (*AJHR*, 1899, p.1).

The Purpose of Education

The question of whether manual and technical education should be part of the formal school curriculum strikes at the very heart of the purpose of education. It raises questions around who benefits from education, its nature as a public or private good, and its role in personal development and growth and/or the preparation of students with skills for the economy.

Two major value positions underpin educational provision. A liberal humanist view emphasises personal and intellectual development, individual freedom and the worth of human relationships. A technocratic perspective revolves around the technological imperative of a planned economy and is based on assumptions around efficiency, cost maximisation and productivity (Olssen *et al.*, 2004). Both of these value positions have a long history in the context of New Zealand education. A broad general distinction between these two ideologies is the difference between education and schooling. Tensions around these is exemplified in the statement presented by Prime Minister Muldoon to the 1982 Post Primary Teachers Association (PPTA) Conference:

If we have the choice between education which produces and throws off benefits into the economy and education for the sake of knowledge which produces simply an educated person, then I stand firmly for the former. To fail to differentiate between the two is, in my view, a luxury this country cannot afford (cited in *PPTA Journal*, 1982, Vol 3, p. 9).

This citation captures the essence of the two value positions discussed above. These are not a total duality because elements of both underpin education at different times and for different reasons. The power and authority to make changes to education must constantly be re-negotiated, which raises the vital questions of what counts as knowledge and culture and in particular whose values become validated in policy making. As Prunty (1985) argues:

The authoritative allocation of values draws our attention to the centrality of power and control in the concept of policy, and requires us to consider not only whose values are represented in the policy but also how these values have become institutionalised (Ibid, p. 136).

This contestation of values is part of the ebb and flow of educational policy discourses. These reflect the nation's economy and government policies, both of which were undergoing a crisis of confidence in New Zealand at the end of the 19th century. Furthermore, the push for the expansion of manual and technical education reflects the demands for a more utilitarian approach to education to meet those of a changing industrial economy. Such demands become "most shrill at times of pervasive crisis in the economic and social system" (Goodson, 1988, p. 27). This thesis argues and demonstrates that between 1877 and 1900, a series of social, political and economic crises imposed pressures on the New Zealand State that resulted in the 1900 Act.

Changing Values in the 'Modern' Era

Giddens (1997) proposes that in order to show that there is significant change in any society it is necessary to identify alterations to *underlying structures* (his emphasis). He identifies three factors that consistently influence social change as "physical environment, political organisation and cultural factors" (Ibid, p. 522). This thesis demonstrates that these changes were occurring rapidly as New Zealand entered this 'modern period', which

Olssen (1992) defines as that between 1880 and 1940. The greatest influences on the physical environment were related to economic factors, in particular the impact of industrial capitalism. Culture also began to reflect the tenets of a westernised, modern, civilised society. Indications of this lie in more a complex economic system, a shift from cottage industry to industrial production, a market economy, a nation state, and mass democracy. Also central to the ideology of 'modernity' is the specialisation of various segments of society, such as the division of labour. Other significant factors include the emergence and adoption of scientific and 'rational' modes of thought (Ibid).

A sequential account of how the dominant ideas underlying this process and how it was managed will be covered in the thesis, a synopsis of which is outlined below.

Thesis Outline

In Chapter 2, I outline the theoretical framework of this Thesis, the methodological tools of historical case study and discourse analysis, the concept of technical rationality, and theories of class and gender analysis. In order to grasp the contested nature of politics at this time in New Zealand, I outline the doctrines associated with classical liberalism and social democratic liberalism and give an overview of their effects in the changing role of the state in late 19th century New Zealand.

Chapters 3, 4 and 5 together provide an account of the sequential development of technical education in New Zealand and the existing social, political and economic issues between 1877 and 1917. These Chapters draw upon documents of original sources, in particular Parliamentary Debates and educational, sociological and historical texts from the pre and post revisionist era. I will endeavour to:

... use sociological and other contemporary theories to interrogate matters of concern to the educational community while regarding a scholarly scepticism regarding its utility in the historical context (Openshaw *et al.*, 1993, p. 15).

Chapter 3 identifies the institutions of technical education that were established in New Zealand prior to the 1877 Education Act. I also examine the genesis of these institutions from Britain and their replication here. Social changes during the latter years of the 19th century will also be outlined, in particular the legitimisation crises of the state and changes in social, political and economic development.

Chapter 4 examines Parliamentary Debates about manual and technical education, outlining the intense political changes that occurred when the Liberals won the election in 1890. International pressures pushed discourses of social efficiency during the last decade of the 19th century and the needs of a competitive economic system were emerging in education. The authority of a few powerful men and their significance in the passing of the 1895 Act will be outlined.

Chapter 5 examines the period between 1900 when the 1900 Act was passed and 1917 when domestic science was made compulsory for girls in order to access a free high school education. The 1900 Act was a far more powerful piece of legislation than the symbolic 1895 Act, because it made resources available. With the battle to have technical education established through legislation now won, attention turned to the education of girls. The push this time coming from the community, in particular women's groups and a small posse of eloquent and well-known male supporters. However, even with the legislation in place, technical education continued to be strongly resisted by parents and teachers.

In Chapter 6, I use critical theories of social reproduction, gender, class and technical rationality to analyse why the 1900 Act took the form that it did and how the discourses contributed to the curriculum content and pedagogy of the Act.

Conclusion

In this Chapter I have outlined the key elements of this thesis and the close links between the development of manual and technical education in New Zealand and in Britain. I have shown that discourses around technical progress and manual and technical education were part of the dominant discourses that settlers brought with them to New Zealand. This Chapter also sets out concepts of 'technical' and its links with capitalism and 'technical education'.

I have argued that at the end of the 19th century the push to make manual and technical education part of compulsory education was intrinsically linked to discourses of the developing capitalist state, the establishment of a competitive trading economy and the preparation of a populace destined for specific roles that fortified existing inequalities in society. Procedures supporting the capitalist mode of production ensured the marginalisation of women into domesticity and the endorsement of Maori and working class students into low status, low pay occupations.

Whether the structuralist theory that schools reflect the relationships in the wider society is true or whether ideological hegemony (discussed in depth later) is successful in convincing those who fail in the system that the fault is theirs, is all part of the enigma of education. But for many students education has failed to become the passport to highly paid prestigious employment and because schools are part of the state apparatus through which children may achieve these goals, we need to ask why and to look for:

The subtle connections between educational phenomena, such as curriculum, and the latent social and economic outcomes of the institutions (Apple, 1979, p. 34).

Notes

1 Elementary education at this time was made available between the ages of 5 and 15. It was supposedly compulsory but attendance was the responsibility of parents to ensure that children who lived within 2 miles of the nearest school attend for at least half of the periods when the school was open.

2 Settlements are constantly negotiated between the state and groups with different agendas and different levels of access to power. Policy development becomes a continuous struggle between dominant interests while the role of the state is to manage a consensus or construct social policy hegemony which defines the best educational policy.

3 The signifier of the first industrial revolution was the superceding of hand work by mechanical power. This often instigated a hierarchical system of line management with skilled people being given positions of authority and worker autonomy was maintained. Craft ability remained vital to production during the first industrial revolution. The second industrial revolution and the use of scientific management and machinery inspired Marx to present his treatise on the relationship between capital as a social form and the capitalist mode of production as a technical organisation (Braverman, 1974) which will be explored further in Chapter 2. The second industrial revolution was shaped by the application of scientific management and removed knowledge of the production process and control over the organisation of work from the shop floor to management. Skills were diluted, labour costs lowered and greater productivity made possible. For a fuller discussion of this see Olssen (1995) and Braverman (1974) Chapters 3 and 4.

4 I am grateful to my colleague Helena Baker for this information shared with me when we were working as facilitators on the Ministry of Education Contracts during the early development of *Technology in the New Zealand Curriculum* 1995. The source of the information was her late mother Ria Gerretzen (nee te Vira) who had the status of te tangata ringa raupo.

5 The following statistics demonstrate a university perspective on low and high status knowledge. In a survey carried in British universities to rate the knowledge status, *Acceptability of 'A' Level Subjects to a Sample of University Departments (n=84)*, pure mathematics topped the scale at 0.92 while, engineering drawing, geometry and engineering drawing, and housecraft came in at 0.27, 0.24 and 0.15 respectively (Goodson, 1993, p. 34).