

Caversham Working Paper, 1996-3

OCCUPATIONAL CLASSIFICATION What the *Census* Tried to Do and Why It Failed.

Social historians and historical sociologists have long regretted the fact that the enumerators returns for the New Zealand Census were systematically destroyed before 1969. As a result the vast public investment in gathering information about the social and economic life of New Zealanders is largely useless, frozen in tables which answer questions once deemed important but which now often seem poorly designed for their purposes. Nor are our scholarly purposes today the same as those of previous generations. Worse, where we want to make comparisons across time the Census has consistently sacrificed that goal in the pursuit of improved precision and lateral or horizontal comparability.¹ Nowhere is the cost of this remarkable and a-historical hubris more clearly (or regrettably) apparent than in the tables which purport to depict the occupational structure of New Zealand. This paper sets out to discover the *mentalite* of those who designed the Census schedules on occupation across the period 1874-1936 in order to construct a national occupational structure for New Zealand in 1901 and 1926 (working paper II). The short-term aim is to allow us to estimate the typicality of Caversham's occupational structure (the problems involved in constructing this from electoral rolls and street directories will be addressed in working paper 3). Our larger aim, however, is to construct from the *Census* a robust cross section of New Zealand's occupational structure at those two points in time. Much of working paper 2 will be about the conceptual confusions and conflation which make it hard to use historical Census data to construct an occupational classification based on either the status or class of occupations. It will conclude with estimates of the degree and speed of change between 1901 and 1926. There is nothing magical about the precise years. They constitute a significant part of a period which has been identified by scholars in several disciplines as critical to New Zealand's modernisation. They also provide the nearest useable occupational Censuses to the Caversham data base.²

¹The phrase has been borrowed from W.A. Armstrong, 'The use of information about occupation', in E.A. Wrigley (ed.), *Nineteenth Century Society: essays in the use of quantitative methods for the study of social data*, (Cambridge, 1972), p. 194.

²As will be explained below, the 1921 Census is completely useless for our

New Zealand can not be looked at in isolation. In the nineteenth century the industrial revolution made people much more conscious of occupation and occupational classification. As Raymond Williams has shown, the industrial revolution spawned a new vocabulary for defining and describing not just the changes but the new social order which emerged.³ In Britain each product also produced a distinctive occupation to steal it from its owner. Many of these thieves were transported to Australia.⁴ The machine would dominate the new order, as Thomas Carlyle pointed out in a celebrated essay in 1829.⁵ Carlyle's insight became a cliché but more than another generation passed before statisticians and investigators tried to identify the impact of the machine on social structure. Simultaneously the new discipline of sociology emerged. Karl Marx sat in the reading room of the British Museum poring over 'blue books' in an effort to decipher both the origins and the future of these momentous changes. Charles Booth launched his ambitious attempt to minutely chart the social and occupational order of London.⁶ Across Europe and North America men tried to understand what was happening. Our task here is more modest, however, but must start in the mid-nineteenth century when the first attempts were made to create a system of occupational classification which would define the new social order, the direction in which it was changing, and help identify new sources of inequality. Fear of social disorder drove the enterprise. Despite all this work, as Margo Conk concluded after studying occupational classification in the United States Census, "'Occupation" is one of the most complex indicators used in social science. It is multi-dimensional, often ambiguous in meaning, and capable of being coded into an infinite number of categories and sub-categories'.⁷

I

a New Society', in G.R. Rice, W.H. Oliver and B.R. Williams (eds), *The Oxford History of New Zealand*, 2nd edn., Auckland, 1992, pp. 254-84.

³*Culture and Society, 1780-1950*, London, 1958.

⁴Cited in Robert Hughes, *The Fatal Shore: A History of the Transportation of Convicts to Australia 1787-1868*, London, 1987, pp. 19-22.

⁵'Signs of the Times', reprinted in Carlyle's *Critical and Miscellaneous Essays*, 4 vols., London, 1865-67, vol. 2, pp. 100-101.

⁶*Life and Labour of the People in London*, 17 vols., 3rd edn., London and New York, 1902-1903.

⁷*The United States Census and Labor Force Change: A History of Occupational Statistics, 1870-1940*, in Robert Berkhofer (ed), *Studies in*

Occupation came to be considered a defining trait of the new industrial society. In 1875 Edward Young, Chief of the United States Bureau of the Census, published his massive comparative analysis of the impact of 'the age of machinery' on the wages and working conditions of workers in the United States, Canada, and Europe. He stressed the impact of the steam engine on methods of production, and the great increase in aggregate wealth. Not everyone shared equally in the new bonanza. While capital accumulation made some wealthy beyond all previous historical measures of wealth, as a consequence scores and even hundreds of others were thrown into comparative poverty and became dependent for work on just one man. Capital accumulation and the expansion of wage labour profoundly altered the social structure by ending traditional patterns of social mobility. Men could no longer hope to become self-employed let alone set up as an employer. The machine altered the terms on which men worked and reshaped society by 'dividing all that large portion of society employed in connection with it into two distinct, and in respect to their circumstances, widely separated classes', employers and employees, Capital and Labour.⁸ In Massachusetts Carroll Wright, another statistician with a passion to understand the changes afoot, distinguished Labour into two broad categories, those who received salaries and those who received wages. Salary earners received more, enjoyed better job security and had a higher standard of living.⁹ We can no longer assume that 'white-collar' salaried occupations necessarily enjoyed higher rewards, greater security of tenure, and higher status than 'blue-collar' ones. The work of C. Wright Mills and Harry Braverman indicates the need for caution, and the work on labour-market segmentation suggests that the distinction between types of labour contract, important though it is, does not neatly coincide with the colour of one's collar.¹⁰

The first efforts to identify the systemic features of the new social order spawned by the industrial revolution - sometimes still confused confusingly with capitalism itself - focussed on the

⁸*Labor in Europe and America: A Special Report*, Philadelphia, 1875, pp. 176-79.

⁹Massachusetts Bureau of Statistics and Labor, *Seventh Annual Report*, Boston, 1876, pp. 2-3.

¹⁰Mills, *White Collar: The American Middle Classes*, New York, 1951 and Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*, New York, 1974. There is a formidable literature on labour-market segmentation. Among others see Paul Edwards, *Conflict at Work: A Materialist Analysis of Workplace Relations*, Oxford, 1986 and Craig Littler, *A Comparative Study of the Transformation of Work Organization in*

urban-industrial occupational order. The implicit assumption was that this constituted the shape of the new order; older occupations, including those in the rural sector, represented if not anachronisms at least a passing order. Any attempt to analyse 'traditional' occupations in a pre-industrial or commercial society, as Michael Katz showed, created predictable problems, not least because of variable definitions and the need for a table of occupational equivalence.¹¹ Whether these problems were sufficiently great to make any form of occupational analysis a waste of time may be doubted.¹² Whatever we conclude about pre-industrial/commercial society, however, the occupational order of the first and second industrial revolutions had a precision and stability of its own. The classification of occupations in the farming sector suffered and when the United States Bureau of the Census, a generation later, set out to classify all occupations on the basis of their skill level it was decided to classify all farm-related jobs as semi or unskilled. The machine had become the new measure of skill, even if it was debasing older craft skills.¹³ In 1933 another director of the US Census, Alba M. Edwards, published 'A Social Economic Grouping of the Gainful Workers of the United States' and established the broad conceptual framework for most subsequent American mobility studies.¹⁴ The British Registrar General's office also worked on the same problem during the first half of the twentieth century and in 1960 classified all occupations in Britain into 17 categories. 'Ideally each socio-economic group should contain people whose social, cultural and recreational standards and behaviour are similar.' Individuals were assigned on the basis of their 'employment status and occupation'.¹⁵

¹¹Michael Katz, 'Occupational Classification in History', *Journal of Interdisciplinary History*, vol 3 (1972), pp. 63-88.

¹²Miles Fairburn argued this for nineteenth-century New Zealand society in 'Social Mobility and Opportunity in nineteenth-century New Zealand', *New Zealand Journal of History*, vol. 13 (April 1979), pp. 43-60 (a rather truculent review of my essay on 'Social Class in Nineteenth Century New Zealand', in David Pitt (ed), *Social Class in New Zealand*, Auckland, 1977).

¹³Harry Braverman's seminal *Labor and Monopoly Capitalism*, pp. 433-34, provides a good discussion of this issue although his general argument is no longer tenable.

¹⁴*Journal of the American Statistical Association*, vol. 27 (1933), pp. 377-87.

¹⁵*Classification of Occupations*, London, 1960 and General Register Office, *Census, 1961*, England and Wales, *Occupational Tables*, London, 1966. J.A. Banks, 'The Social Structure of Nineteenth Century England as seen through the Census', in Richard Lawton (ed.), *The Census and Social Structure: An Interpretative Guide for 19th Century Censuses for England*

Only in the 1950s did Athol Congalton and Robert Havighurst first construct a status ranking of occupations for New Zealand¹⁶ Congalton, an educational psychologist, had developed his method for constructing a hierarchy of prestige among occupations in Australia. In his most extensive study he included 134 occupations ranked by a sample of 1189 university students. Although Congalton followed the traditional research procedures for such studies his sampling procedures and selection of descriptive statistics soon came under sharp critical fire. So did his assumption that a value consensus existed among his respondents, an assumption taken from Talcott Parsons. Undaunted, however, Congalton worked with Havighurst, a visiting Fulbright Fellow, and applied the same method for determining prestige to 116 occupations in New Zealand, ranked again by a sample of students.¹⁷ Cora Baldock analysed some of the central theoretical problems involved in constructing prestige rankings and tried to devise methods for overcoming the 'functionalist bias prevalent in most research on occupational prestige ...'. More to the point, she exposed the 'limited theoretical value of prestige ratings as compared with measures of power and economic inequality'. Baldock also established that farming enjoyed a higher ranking in New Zealand than it did in most capitalist societies.¹⁸ Perhaps these complexities persuaded Elley and Irving to use the Census statistics on individual incomes when they constructed their hierarchy of occupations. They later revised this scale and it is still widely used by researchers.¹⁹

II

The taxonomic principles which shaped the history of the occupational census in New Zealand derived mainly from Britain.

¹⁶A. Congalton and R.J. Havighurst, 'Status Ranking of Occupations in New Zealand', *Australian Journal of Psychology*, vol. 6 (1954), pp. 10-16.

¹⁷For this brief history I have relied on Cora V. Baldock and Jim Lally, *Sociology in Australia and New Zealand: Theory and Methods*, Westport, Conn., 1974, ch. 5, esp. pp. 143-45.

¹⁸C.V. Baldock, 'Vocational Aspirations of Farm Boys and Non-Farm Boys in New Zealand', *Rural Sociology*, vol. 36 (June 1971), pp. 157-72; *Vocational Choice and Opportunity*, Christchurch, 1971; and 'Occupational Choice and Social Class in New Zealand', in David Pitt (ed.), *Social Class in New Zealand*, Auckland, 1977, pp. 78-98.

¹⁹W.B. Elley and J.C. Irving, 'A Socio-economic index for New Zealand based on levels of education and income from the 1966 census', *New Zealand Journal of Educational Studies*, vol. 7 (Nov. 1972), pp. 144-52. In 1976 they revised this, incorporating the International Standard Classification of Occupations which the Census first used in 1971, in 'Revised Socio-economic

In Britain the first Census had been taken in 1801 and by the 1840s statistics and statisticians had emerged as the cutting edge of humanitarian social reform. The great English Census of 1851 provided a model for the new colony of New Zealand and it contained a fairly elaborate industrial schedule. The key principles shaping the census had been spelt out by Dr William Farr, one of the most influential statisticians in Victorian Britain. Farr's basic principle was that 'unclear distinctions should be abolished'. '[C]lassification, he claimed, 'is another name for generalization, and successive generalizations constitute the laws of the natural sciences.'²⁰ Farr worked mainly on statistics relating to morbidity and mortality in the 1830s and '40s and provided one of the clearest expositions of 'environmentalist theory'. 'He believed that poverty and despair were the result of poor living conditions and that their inevitable concomitants were high rates of disease.'²¹ During the 1840s he established a statistical link between violent deaths and occupation and this may have quickened his interest in industrial and occupational statistics. In 1841 the Census had included an occupational enumeration of the entire population, as individuals, for the first time, but different methods of classification marred the result.

In 1851 England's occupational statistics were aggregated into categories, a set of classes and sub-classes (later renamed orders and sub-orders and assigned Roman numbers rather than names, presumably because the word 'class' had become politically sensitive).²² Farr, working closely with George Graham and Horace Mann, introduced a new system of classification based not on social standing, previously inferred from dress, but the occupation's impact on the personalities of those who followed it (an idea first used systematically if intuitively by Adam Smith). They concluded that occupations could be distinguished by (1) the skill, talent or intelligence required, (2) the tools, machines and 'structures' employed in the work, (3) the materials worked on, (4) the processes used in making or manufacturing, and (5) the actual products themselves. 'All these elements and their

²⁰Cited by M.J. Cullen, *The Statistical Movement in Early Victorian Britain: The Foundations of Empirical Social Research*, London and New York, 1975, pp. 33-34.

²¹Cullen, *Statistical Movement*, p. 36. For a brief overview see Armstrong, 'The use of information about occupation', in Wrigley (ed.), *Nineteenth Century Society*, p. 194.

²²The Scottish and Irish Censuses were separate and the occupational classifications used in those countries were comparable to the English one but contained additional information; Joyce M. Bellamy, 'Occupation Statistics in the Nineteenth Century Censuses', in Lawton (ed), *The Census*

conflicting claims have been considered in the classification but, in conformity with the first notions of mankind ..., the greatest weight has been given to the *materials* in which people work, as they generally imply important modifications not only in the tools, in the machines, in the processes, and in the products, but in the characters of the men.' As J.A. Banks remarked, 'each of the seventeen "classes", and even each "sub-class", may be thought of as socially distinctive, and in this sense the 1851 and subsequent systems of classification comprise a social structure of some importance'.²³ Unfortunately, when this system was used in New Zealand the complexities were ignored and occupations were classified 'according to the material dealt in or worked on ...'.²⁴

The English system, however, was flexible. In 1881 the English began classifying clerks as such, rather than assigning them to a particular branch of industry or commerce. At the same time the retired, previously classed with their previous occupation, were assigned to the unoccupied category and in 1891 army and navy pensioners joined them. Doctors and clergymen, by contrast, remained in their previous occupations until 1911. The classification of wives who were business partners of their husbands also created problems, as did the classification of youths. These examples simply illustrate the complexity of constructing a comprehensive occupational classification and the way in which Farr's taxonomic principle infiltrated an industrial schema into the endeavour. The New Zealand Census inherited this confusion. Whereas in England and Wales (and from 1861 Scotland) the enumerators' returns allow modern scholars to reorder the data into modern categories based on status or class, the destruction of those returns here leaves us with no alternative but to make the best of the published tables.²⁵ Worse, perhaps, whereas the British published volumes on the 'Classification of occupations' from the 1911 census onwards the New Zealand census never attempted such a task. The categories

²³J.A. Banks, 'The social structure of nineteenth century England as seen through the Census', both in Lawton (ed.), *The Census and Social Structure*, pp. 190-91. For Smith see David A. Reisman, *Adam Smith's Sociological Economics*, London and New York, 1976, ch. 3.

²⁴Cited by Malcolm Fraser, *Results of a Census of the Dominion of New Zealand... 1921 ... General Report*, Wellington, 1925, p. 133.

²⁵There is an extensive literature concerning the occupational census in England and Wales. See for instance W.A. Armstrong, 'The use of information about occupation', in E.A. Wrigley (ed.), *Nineteenth-Century Society*, pp. 191-310. See also Joyce M. Bellamy, 'Occupation statistics in the nineteenth century censuses' and J.A. Banks, 'The social structure of nineteenth century England as seen through the Census', both in Lawton

used in the English Census, which achieved their ultimate perfection in 1931, were I, Agriculture, II Fishing, III Mines & Quarries, IV Bricks, Pottery, Cement, Glass, V Chemicals, Oils, Paint, VI Metals & Engineering, VII Precious Metals, VIII Textiles, IX Skins & Leather, X Dress, XI Food, Drink & Tobacco, XII Woodworking (including Furniture & Fittings), XIII Paper, Books & Printing, XIV Building, XV Gas, Water & Electricity, XVI Transport, XVIII National & Local Government, XIX Defence, XX Professions, XXI Domestic & Other Service, XXII Other Occupations & Industries, XXIII Without Specified Occupations or Unoccupied.²⁶

In New Zealand the Registrar General, based in the Colonial Secretary's office, first systematically collected information about occupations. He was less interested in the occupational structure than in plotting precisely the colony's industrial structure and growth. The British schedules were made to suit. Census data was first gathered in 1851 and respondents were asked to identify the industry in which they were working on Census night. From the 1874 Census onwards the Registrar General also asked respondents to identify their occupation. The 1874 *Census* included 'An elaborate series of tables ... for the first time ...', designed to identify the occupations of the people. The Registrar General quoted at length from the *English Census* for 1871 in explaining and justifying this innovation. He emphasised the existence of conflicting theories about the industrial organisation of society - presumably a veiled reference to Marxian and socialist predictions about capitalism - and further added that information about occupations had become relevant to a wide range of social issues. Although New Zealand's industrial development had not yet reached a stage where all these problems had emerged the Registrar General had no doubt that it was only a matter of time before they did. The 1874 Census borrowed its system of nomenclature and classification from England and Victoria, with some slight variations in detail, classifying all occupations into six broad 'classes': Professional, Domestic, Commercial, Agricultural, Industrial, and Indefinite and Unproductive.²⁷ The classification was, in short, organised around the principal sectors derived from political economy, 'Production', 'Exchange' (sometimes referred to as 'Distribution'), and 'Professional and Domestic Service'.²⁸ 'Production' interested

²⁶Bellamy, 'Occupation Statistics', *ibid.*, Appendix IV, p. 178.

²⁷Registrar General, Wm. R.E. Brown, 'Report', *Results of a Census in the Colony of New Zealand ... 1st of March, 1874*, Wellington, 1875, pp. 11-12. The United States Census only separated Professional from Domestic in 1890 although Commercial had been disaggregated much earlier; Conk, p. 58.

²⁸Conk, p. 58.

the colonists most, especially 'Industrial Production' (as it reflected directly on the aspiration of most colonists to see New Zealand become the 'Great Britain of the South Seas'). In 1878 the Registrar General sub-divided the industrial class into three orders defined by the materials worked: textile fabrics, dress and fibrous materials; animal and vegetable matter; and workers and dealers in minerals (including miners). He also complained that 'many persons, either through carelessness, want of appreciation of the important bearing of the ... results on many social and industrial questions ... fill in the occupations in a negligent and indefinite manner ...'.²⁹ The results were presented for the entire colony and were also broken down by city, town, province, goldfields, and for the Chinese. The Maori were ignored.³⁰

The key figure in developing the *Census* over the next thirty years was E.J. von Dadelszen, a statistician and administrator who had been born near Liverpool in 1845. He became chief clerk in the Registrar General's office in 1880, deputy Registrar in 1884, and Registrar General in 1892. In 1890 and 1900 von Dadelszen attended Australasian conferences of statisticians and these led to several innovations. The Australasian colonies shared similar problems in compiling statistics, not least because of the small and unevenly distributed population and the presence of a largely rural indigenous people. Yet statistics became more important across this period as a basis for formulating and implementing social policies, especially in health, education, and charitable aid. As the Registrar General's 'Report' for 1881 remarked, the importance of occupational classification was 'receiving more extensive recognition. The tables throw light not only on the development of trade and industry, but are of use in connection with many inquiries into social problems.'³¹ This was most

²⁹'Report', *Census, 1878*, p. 11.

³⁰The issue was never addressed in the *Census* but the reasoning may have followed that of Francis Walker, head of the United States Census from 1870 until 1910, who dismissed 'hunters' and 'trappers', and by implication Indians, on the grounds that 'Political economy has no more to do with men in such a state than with the monkeys who compete with each other for cocoanuts and bananas'; *Political Economy*, cited by Conk, p. 56.

³¹Ian Pool, 'Dadelszen, Edward John von', *Dictionary of New Zealand Biography*, vol. II, 1870-1900, Wellington, 1993, p. 108 and for the quotation, 'Report ...', *Census*, Wellington, 1882, p. 10. Brendan Thompson, 'Industrial Structure of the Workforce', in Economic and Social Committee for Asia and the Pacific, Country Monograph Series No. 12, *The Population of New Zealand*, 2 vols., New York, 1985, vol. 2, pp. 114-38 provides a brief

apparent in the Registrar-General's work on the actuarial evidence reported by the friendly societies.³²

In his prefaces to the *Census* Dadelszen usually provided a brief analysis of the major problems. During the 1880s occupational nomenclature and classification interested him, although (like most statisticians) he thought the industrial census far more important than an occupational one. Under each of the six 'classes' the occupational orders began proliferating. In 1881 the six 'classes' were subdivided into 15 orders and Table III organised each order into sub-orders on the basis of 'the material dealt in or worked upon' (e.g. 'Engaged in agricultural pursuits ...'). To the irritation of the Registrar General and his key staff the failure of some to identify any occupation, and the refusal of others to identify the industry in which they worked, ensured a sizeable residual category of unclassifiable persons who were assigned to a residual category, 'Indefinite and Unproductive'. In retrospect, however, the numbers do not seem significant. In 1881, for instance, only 1813 persons out of 488120 failed to specify an occupation (0.37%) and less than 20000 failed to specify an industry. The great majority of the latter, 14904, were labourers.³³ Failure to specify an industry, however, does not mean ignorance of occupation. In 1886, as if aware that the attempt to construct an occupational classification was bedevilled by the use of functional (or industrial) categories, the *Census* included an 'Alphabetical Arrangement of Occupations' and a further table entitled 'Employment of Labour in the Industrial Class'.³⁴ The alphabetical listing, which was constructed from 'Occupations: Details', incorporated all the conflation in the original table and contained its own - i.e. persons belonging to different social classes. By 1901 it was also bedevilled by considerable duplication, many occupations being listed at least twice (e.g. 'Assistant Ironmonger' and 'Ironmonger, Assistant'). 'Employment of Labour in the Industrial Class', the second new table, marked the first attempt to construct a table of occupational status.³⁵

³²Olssen, 'Friendly Societies in New Zealand', forthcoming. An abbreviated version of this paper is already available in French; 'Nouvelle-Zelande', in Michel Dreyfus and Bernard Gibaud (eds), *Mutualites de Tous Les Pays: 'Un passe riche d'avenir'*, Paris, 1995, pp. 321-34.

³³*Census, 1881*, pp. 10, 13.

³⁴*Census, 1886*, p. 272. Preliminary investigation suggests that the first alphabetical listing seems to be relatively free of the problems which had emerged by 1901.

³⁵Unfortunately, however, 'the industrial class' and miners were quite confused about how to answer the new question so that the 1886 table is not

Other problems remained, however. Although in 1886 the Registrar General listed any occupation which five persons returned in the published *Census*, thus providing a microscopic portrait, the final tables still reported the information on occupations in predominantly industrial/sectoral categories. Besides, the enumeration and classification was based on the 'occupation which each person is following and deriving income from at the time of the Census ...'.³⁶ As a result, given that the Census was usually taken in autumn, a sizeable proportion of men engaged in seasonal occupations could list only the one in which they were engaged on Census night. This meant, among other things, that there were often few shearers in the colony!³⁷ The reason for this is simple enough: the shearing season had ended. Perhaps a high proportion of the labourers who consistently refused to identify their industry were shearers who, in March-April, intended seeking work as labourers but had not found any. As a result the Census does not allow any analysis of horizontal occupational mobility. A second distortion occurred in asking people to list only one occupation. As Fairburn pointed out, many of the colonists had more than one occupation at any one time, quite apart from the fact that they might change occupations during the year (as shearers did). Versatility was an implicit requirement in most occupations.³⁸ Nor did the Census attempt to measure the proportion of those actively engaged in the labour market, a startling omission during a depression when anecdotal evidence suggests that unemployment was a major problem. The distortions are unlikely to have operated randomly, however, and it is likely that they were most marked among the least skilled and small-scale farmers and entrepreneurs who entered and left the labour market in response to short-term needs. Although it is impossible to identify the numbers involved with any precision the existence of these problems does not greatly reduce the value of the information in the table of occupations - details. We simply need to proceed with caution, especially for the period 1874-1916. According to the Registrar General 'The tabulation of the occupations is one of the most complex of the operations in the compilation of the Census ...', and although the smallness and simplicity of the colony's

³⁶*Ibid.*, p. 10.

³⁷I am indebted to Lewis Patterson for drawing this to my attention; see his essay for Hist. 452 (taught by Dr Tom Brooking). Everything depended, of course, on the exact date of the Census. The 1901 Census includes a fairly full complement of shearers but only 91 were listed in 1926.

³⁸'Social Mobility and Opportunity in Nineteenth-Century New Zealand',

industries reduced the problem only the most experienced clerks were used in this line of work.³⁹

It might be expected that the Liberals would have demanded some changes to the system of classification, but they did not. The Registrar General, because sensitive to developments in Britain and the Australian colonies, was already collecting enough data. Some prominent Liberals, like William Pember Reeves, were sufficiently interested in the central characteristics of modern-industrial societies to read, for instance, Carroll Wright's reports. The establishment of a Labour Bureau charged with collecting information about unemployment met the major deficiency in the Census as far as Reeves was concerned although von Dadelszen also included a question in the Census designed to supplement that information. In 1891, when von Dadelszen took charge, the *Census* already provided a lot of material on 'Occupations of the People'.⁴⁰ He instituted two changes. First, he introduced a table on employment status so that employers, self-employed, employees and relatives assisting without financial reward could be distinguished.⁴¹ He also subdivided the table on 'Details of Occupations' into two sections - 'Section A Breadwinners' and 'Section B Dependents: Non-Breadwinners'. Section A contained the six classes derived from the standard sectoral divisions used in political economy: 'Professional', 'Domestic', 'Commercial', 'Industrial', and 'Agricultural, Pastoral, Mineral and Other Primary Producers'. Section B contained those who failed to specify their industry together with pensioners, children etc. Unfortunately the 'Details of Occupations' ignored status. Owners and proprietors were conflated with all of their employees. Von Dadelszen later separated 'Dependents' from those who failed to identify their industry, who were classified as 'Indefinite'. In the 1901 Census he also separated 'Transport and Communication' from 'Commercial', thus creating seven classes in Section A.

³⁹Report ...', *Census, 1886*, p. 18.

⁴⁰Table VI - Details of Occupations Showing The Occupations of the Population of the Colony ...', *Census, April 1891*, pp. 245-61. The *Census ... 1921 ... General Report*, Wellington, 1925, p. 133 summarised the changes: a new category of 'Dependent' was first used in 1891, and women and children were transferred from 'Domestic' to 'Dependent'; miners were grouped with primary producers (an interesting physiocratic survival), and labourers n.e.i. were classified in 'Industrial'.

⁴¹Given that a table on status had appeared in the English Census since 1831 we might infer that status had been so fluid in the colony that the attempt had been considered quixotic. Such an inference supports Fairburn's general argument; see *Census, 1891*, pp. 279-95. It is interesting that no attempt was made to distinguish managers/superintendants or to recognise status differences in the table of occupational detail or the alphabetical list.

The classes, sub-classes, and cross tabulations by location, sex, and age had grown enormously, however. Whereas each new level of precision allowed the Registrar General to glow with satisfaction, from our perspective the growing volume of information makes it even harder to reconstruct their methods let alone construct a reliable time series. The central categories also continued to indicate conceptual confusion. Even an apparently useful category, such as 'Professional', included not only those we would still classify in this way but privates and non-commissioned officers, sailors (in the navy), 'irregular clergy', janitors, servants, 'irregular' medical practitioners (e.g. an 'oculist and aurist', an 'ozonist'), not to mention janitors, servants, chemists' shopboys and apprentices. Worst of all, anybody who baffled the *Census* clerk ended up being consigned to the category 'other'! The explanation is simple enough. 'Professional' had been separated from 'Professional and Personal Service', one of four standard functional categories in the early-nineteenth century, but the attempt to refine the broad categories did not lead to a systematic re-allocation of the specific occupations.

It is true that by 1891 a high proportion of these anomalies were identified in the footnotes to the lengthy table on 'Details of Occupations ...', but as a result it is time-consuming and frustrating to struggle with the published industrial censuses in an effort to create an occupational one. The 'Alphabetical Arrangement', which might have been more useful, was increasingly bedevilled by the aggregation of occupations regardless of employment status. The Registrar General was aware of these problems, for such problems were not peculiar to New Zealand. From 1851 onwards respondents were asked to identify the 'industry' in which they worked; from 1874 they were asked to identify their occupation and the industry; from 1891 they were asked whether they were an 'employer', 'employee', 'working on own account' (i.e. self-employed), or a 'relative working without pay'.⁴² The *Census* undoubtedly obtained a more accurate picture of the occupational structure's shape but, unfortunately, the tabular analyses of status and occupational detail are not reconcilable. The table presenting 'Details of Occupation', and the alphabetical enumeration compiled from it, failed to take status differences into account. All butchers were listed as butchers, for instance, regardless of whether they owned a large establishment and employed many,

⁴² ... 1881 ... 18

worked on their own account, or sold their labour.⁴³ The 1891 Census table cross-tabulating occupational detail by status, - 'Details of Occupations - Employers and Employed' - defined self-employment as 'working on own account', a very restrictive definition by international standards, and while that table can be used to disaggregate some conflation in the 'Details of Occupation' its restricted definition obscures a major feature of social structure.⁴⁴ The continued use of sectoral categories, again, bedevils both the table on occupational detail and that on occupational status and thus makes the cross-tabulation even more suspect. For instance, 'Mine proprietor, overseer, miner, clerk and others engaged in coal-mining' were aggregated.⁴⁵ It should be added, however, that a conference of statisticians from all the Australasian colonies, meeting in Sydney in 1900, largely accepted the classification system used by New Zealand in 1896 as the basis for a common scheme.⁴⁶

III

'During 1874 to 1896 a comprehensive compilation was made on an industrial basis [in New Zealand], with certain modifications introduced in 1891. From 1901 to 1916 ... its basis, on the whole, was industrial.'⁴⁷ During the latter period the reorganisation of the entire census took place, following the Census and Statistics Act of 1910, Dadelszen's final achievement (he retired the previous year). As a result a Government Statistician was appointed in 1911, under Dadelszen's successor as Registrar General. Malcolm Fraser became the Government Statistician and promptly made his mark. In the 1920s he finally incorporated the conceptual distinction between an occupational census and an

⁴³The social and cultural consequences of this phenomenon constitute the focus for my collection of essays in *Building the New World: work, politics and society in Caversham, 1880s-1920s*, Auckland, 1995, esp. chs. 3 and 10.

⁴⁴'Table XI: Details of Occupations - Employers and Employed', *Census 1891*, Wellington, 1892, pp. 286-95. It is not impossible, however, that the classification of persons working on their own account varied from one industry/sector to another. In Britain, as late as 1951, persons employing less than ten persons were classified as self-employed; see Armstrong, 'The use of ... occupation', in Wrigley (ed.), *Nineteenth Century Society*, p. 207. If the British definition was applied to New Zealand in this period almost every employer would have been self-employed.

⁴⁵*Ibid.*, p. 295.

⁴⁶This, at least, was Malcolm Fraser's claim; see *Census .. 1921 ... General Report*, p. 133.

⁴⁷*Population Census, 1926*, vol. IX, *Industrial and Occupational Distribution*,

industrial one, but before then he had other ideas for reform.⁴⁸ He made some changes before the Census taken in 1911 but many of his ideas and proposals were only fully achieved in 1916 when Internal Affairs, which had overall control of the Registrar General's office following its establishment, set up a Census and Statistics section.⁴⁹ The 1916 *Census*, Fraser's first, consolidated the new system of industrial classification first used in 1911, tried to achieve greater precision in measuring the level of unemployment, and began to look again at the classification of occupations.⁵⁰ Unlike many of his successors he was, we must remember, constrained by the desire to maintain comparability with previous Censuses.

Fraser did not have long in which to alter the schedules before the 1911 Census took place. He kept von Dadelszen's seven classes of 'Breadwinners' and his category of 'Dependents' to cover all non-breadwinners (women, children, inmates, prisoners).⁵¹ Within those classes there were now 27 orders and innumerable sub-orders. Within the 'Industrial' class the central taxonomic principle remained the material worked, the actual industrial process constituting a subordinate axis of classification. The Occupational Census still included the table on status, in which those employed in each occupation were subdivided into employers, self-employed, employed, and relatives assisting (a category now largely confined to young men in the farming population). The lengthy table on occupational detail, with its elaborate footnotes, also remained, as did the alphabetical list, which now took up 13 pages.⁵² The National Government (1915-19) had been ambivalent about holding the 1916 Census, but Fraser persuaded them that an industrial census was imperative (although it was not published until 1920).⁵³ In

⁴⁸He may have recognised the distinction earlier because Edwards began reorganising the United States Census in this way from 1910 (Conk, p. 47) and the English census adopted an occupational as well as an industrial classification in 1911 (Armstrong, p. 195).

⁴⁹This brief history has been taken from the prefatory material to the Census and Statistics archives, National Archives.

⁵⁰It should be noted that Von Dadelszen began attempting to measure unemployment from the 1896 *Census* onwards.

⁵¹In *Census ... 1921 ... General Report*, p. 133 dates 'Dependents' from 1891.

⁵²*Census 1911*, Wellington, 1912. The table on status had first appeared in 1886 but had been published in the Industrial Census. Not surprisingly, given the amount of manual counting and calculation, the results in this table were often inconsistent with the results in the occupational census. For a brief comment see Fraser's remarks in *Census 1916*, Wellington, 1920, p. 107. Unfortunately, the incommensurability of the two tables is most marked in the 1926 Census.

⁵³J. Hislop, 'Memorandum' for G.W. Russell, Minister of Internal Affairs, 4

this Census Fraser explicitly addressed 'Occupation and Unemployment'. Fraser also reviewed 'The old classification of Dr Farr, in use prior to 1891, [which] purported to divide the population so as to distinguish the commercial from the industrial class.' This, Fraser argued, had led to confusion. 'Thus the dealers, who are really commercial, went to swell the number of the industrial at the expense of the commercial class. General labourers were cast out of the industrial into the indefinite class.' Many women and children had also been listed as domestic rather than dependent.⁵⁴

For this Census each firm was also required to complete a schedule in which, among other things, every employee was listed by occupation. The Census Office tried to check the results derived from aggregating individual returns with the results from the industry returns, but the task proved extremely complex. The eight occupational classes remained in 27 orders, 112 sub-orders, and 627 groups. The cross-tabulations by place of residence, sex and age achieved a new level of precision (unfortunately, unlike the United States Census, no cross-tabulations by place of birth appeared). The cross-tabulations revealed that most of those working on their own account were in their 30s or 40s, and retired early, whereas teenagers dominated the category of relatives assisting (which had shrunk sharply since 1911). For the first time the Census attempted to measure the proportion of the population within the labour market.⁵⁵

Over the next two years various amendments were made in preparation for the first post-War Census, many on the recommendation of the National Efficiency Board (established in 1917 and consisting of five prominent businessmen).⁵⁶ Fraser wanted to start analysing some new subjects, such as income distribution and the 'moral' consequences of urbanisation (assumed to be unfortunate and a national obsession throughout

⁵⁴This reclassification of women from domestic to dependent was an international phenomenon which reflected a decision to ignore household production and to assume that the doctrine of separate spheres actually described the social order. For further discussion see *Building the New World*, pp. 70-73. General labourers worried all taxonomists at this time. In the United States they were placed in Trade and Transport.

⁵⁵'Occupation and Unemployment', *Census 1916*, pp. 107-15, 133.

⁵⁶The Minutes of this Board, and some correspondence, are held by the Alexander Turnbull Library. National Archives also holds substantial files, many of which relate to the occupational and industrial censuses. The work

the 1920s).⁵⁷ To do this he had to start thinking about constructing a taxonomy of occupations into broader groupings or classes (a word which had an ancient taxonomic lineage and which, for statisticians, had no particular ideological purpose). In 1919 the main one relevant to occupations concerned 'Employees and Wages. This has been split up by requiring employees and wages in connection with manufacturing separately[,] according to whether engaged in administration or manufacture, and a further question added regarding distribution and sales of the goods manufactured ...'⁵⁸ Fraser also persuaded Cabinet to approve an annual industrial census, citing the imperative importance of such information in managing an emergency. William Ferguson, chairman of the National Efficiency Board, also strongly supported this proposal.⁵⁹

World War 1 had made statistical knowledge of resources and capacity imperative and the Empire's leaders demanded that all member states strive for standard procedures and definitions.⁶⁰ Early in 1920 the Empire's statisticians gathered in London to seek a new level of uniformity and standardisation in taking censuses. Fraser's 'General Report' reviewed the results. After outlining previous practice and describing the new mechanical method for analysis, he explained that (among other things) the London Conference had 'recommended ... the dissociation of industries from occupations and the publication of both industrial and occupational statistics'. The statisticians recognised that 'There are few divisions of inquiry in which the scheme of classification ... is so intimately connected with the results ..., yet the subject presents so many complexities and such vast difficulties that no international uniformity of opinion or treatment exists. Controversies have proceeded and still proceed ...'.⁶¹ The decision to attempt to construct separate industrial and occupational censuses reflected the English view that an industrial census was organised around the relationship to a particular service or product, whereas an occupational one was centred on the nature of the work and its effect on the workers' personality.

⁵⁷P.B. Hurricks, 'Reactions to Urbanisation in New Zealand During the 1920s', MA, Canterbury, 1975. According to Cullen, *The Statistical Movement*, p. 145, this had been the case from the 1830s.

⁵⁸M. Fraser to Minister Internal Affairs, 3 Jan. and 16 April 1919, *ibid*.

⁵⁹Ferguson to Fraser, 28 Feb. 1919 and Fraser to Under-Secretary IA, 27 Feb. 1919, *ibid*.

⁶⁰Richard A. Preston, *Canada and 'Imperial Defense': A Study of the origins of the British Commonwealth's defense organization, 1867-1919*, Durham, N.C., 1967, pp. 514-30 provides a sound discussion of the political context.

⁶¹C. ... 1881 ... 1885 ... 1887 ... 1888

In his preface to the 1926 census Fraser quoted at length from the justification in the English *Census* for 1921. That justification clearly recognised the fundamental distinction between a business or industry, which almost always employed 'a number of individuals of widely varying occupations for the purpose of affording a particular service or creating a particular product', and an occupational classification. 'The personal occupation brings together all those whose personal profession or handicraft is the same, or substantially the same, and is in general little concerned with the industry ...'. The occupational position, rather than the industry, 'determines the nature of his work, the nature and extent of the strains which it puts upon him physically or mentally, and the main conditions under which he works; but it is his industrial position which affects him in certain respects - e.g., unemployment - by reason of circumstances affecting the prosperity or otherwise of the industry as a whole. Hence the need for the dual classification'⁶² There had been too little time for the New Zealanders to fully implement the 1920 recommendations before the Census held on 17 April 1921, hence they 'hastily' adapted the English schedules.⁶³ As a result the 1921 New Zealand occupational census is useless because it used a classificatory system never used before or after. One presumes that Fraser accepted this outcome as the price for persuading Government to fund both projects and risk any political odium.

One of the Census office's clerks, Cruickshank, grappled with these issues in 1921-22 as he tried to construct an 'Occupations Code for Use in Migrations Statistics'. He informed Fraser, his chief, that 'In principle I do not think it practicable to have fewer than about 150 items. With a very small number of items the "residue" classes become too large as in occupations there exist no half-dozen dominating groups. In reducing headings too far it impels either dealing with only a fraction of the individuals under survey or else it tends to grouping of designations whereby distinct callings are obscured.' After pointing out that a useful classification had to be relatively short, or else respondents would be confused, he noted that 'In setting out the codes I consider the code itself is better arranged in an industry or service order, showing ... associated occupations together immediately followed by the respective "residue" as provided. A copious alphabetical index is imperative.' Roughly three weeks

⁶²*Population Census, 1926*, Vol. IX, *Industrial and Occupational Distribution*, Wellington, 1930, p. 1.

⁶³

later he had finished his draft code. 'As far as possible the class headings are those of the English Census, roughly followed in our Census Industry Code. It has not been possible to adhere strictly to the English Code with its 32 classes. Although the headings used are almost those of the Industry Code, the items thereunder differ. The basis used was the number of persons following the particular occupation, a higher minimum being required for unskilled than for skilled workers.'⁶⁴

The categories of the industrial census still bedevilled the attempt to construct occupational classes. A category such as 'Commerce and Finance', for instance, indicates that the Census statisticians instinctively thought in terms of economic sector. It thus proved impossible to escape the old problem of including unlike occupations in the same occupational 'class' because they belonged to the same industrial/economic sector. For instance, Cruickshank included under 'Commerce and Finance' bank managers and tellers, capitalists and shop assistants, storemen, packers, warehousemen and shopkeepers, stock-and-station agents, and financiers. The confusion between industrial and occupational classifications, in short, proved surprisingly hard to identify for this generation of statisticians. The problem of systematically distinguishing industrial and occupational taxonomies also led to the creation of two peculiar residual categories for dealing with those not easily grouped according to the industrial and sectoral headings. The category 'Dependents on Public or Private Support' seems clear enough, and includes children, dependent relatives, wives and widows, and inmates of hospitals and prisons.⁶⁵ 'Other or Indefinite Occupations', by comparison, reflected complete confusion, containing general labourers, foremen and superintendants, machinists, the unemployed, together with pensioners and those of independent means. As he grappled with the problem Cruickshank did refine the older categories of the industrial census, trying to systematically define each occupation in terms of the larger process to which it contributed. It is easy enough in retrospect to see that thinking in terms of processes meant that the older industrial categories continued to shape the taxonomy, but (not for the first time) what seems obvious in retrospect was but

⁶⁴Cruickshank to Fraser, 2 and 14 March 1922, Statistics 1, 13/8/15. On 17 March Fraser approved.

⁶⁵It seems that Cruickshank meant what he said but when the Prime Minister wrote to the Secretary-General of the League of Nations about this issue, in a letter dated 24 May 1938, he explicitly noted that inmates of prisons and asylums were 'classified as gainfully employed' on the grounds that 'these people are only temporarily divorced from their occupations'.

dimly perceived at the time. Hence a category such as 'Processes Relating to Metals, Machines, Tool, Conveyances, Jewelry Etc.' merely perpetuated confusion.⁶⁶

In the 1926 Census Fraser claimed that the 'occupations code has been reduced to a more systematic classification which can exist entirely independent of the industrial tabulation'. The only major problem left, he thought, was that the young often claimed an occupational status not yet attained, omitting to identify themselves as improvers or apprentices. It is possible, of course, that others used the Census return as wish fulfilment, an analogue to the Freudian dream. Despite Fraser's confidence, however, the seven classes, which he reorganised, still bore the imprint of a century's industrial classifications and the confusion deepened as the detail multiplied. The classes were: (1) Primary (which had included mining since 1891), (2) Industrial, (3) Transport and Communication, (4) Commerce and Finance, (5) Public Administration and Professional (which included entertainment), (6) Domestic and Personal, and (7) Others.⁶⁷ Recognition of the distinction between industrial and occupational, first clearly made in 1920, would take another generation to implement at the most general level, let alone at the level of specific occupations. As a result the attempts made, both in the 1921 and the 1926 *Census*, to analyse the 'moral' consequences of urbanisation and such issues as income distribution aborted. The next census was cancelled as a cost-cutting measure and no significant changes were made before the 1936 *Census*.

An occupational classification was essential to identify the broad changes occurring in New Zealand society, and their consequences, but the importance of such a taxonomy made it no easier to define the principles of classification. Men like Wright and Edwards (in the US) remained confused as to how many classes there actually were, just as Marx was (they were more confident about the shape of the future social order). By the 1920s, however, it had become a central proposition in liberal, socialist and conservative discourse that industrialisation was simplifying the class structure and eliminating craftsmen, reorganising society into employers and employees. If the sense of direction shaped the attempt to construct an occupational classification, so too did the categories which had long been used in the industrial census. The formation of the New Zealand Labour

⁶⁶'Occupations Code for Use in Migration Statistics', 8 July 1922, Statistics, Series 1, 13/8/15.

⁶⁷1922, Statistics, Series 1, 13/8/15.

Party in 1916, after a decade of ideological and industrial conflict, and its rapid success in urban areas gave socialism a new influence and rendered the need for an occupational census more urgent. Assertions about the rigidity of the class structure, the extent of social mobility, and the degradation of skill had become central to political debate.

Before looking at the next major effort to reconsider the occupational census it is worth noting that the desire to determine the principal direction of industrial evolution helps explain why one generation after another failed to distinguish between industrial and occupational classifications. As Fraser observed in his report on 'Occupation and Unemployment', which accompanied the *Census 1916*, a major purpose of the entire exercise, in his day, was to measure the relative importance of the industrial and commercial sectors. In short he wanted to be able to trace the numbers involved in what we now call the primary, secondary, and service sectors. This functional classification remains an important way of analysing long-term trends, quite apart from its relevance to testing the accuracy of Marxist and socialist predictions about the laws governing the development of capitalism. Brendan Thompson has used Census figures to estimate New Zealand's changing industrial structure, demonstrating that the primary sector declined very slowly between 1874 and 1936 and that the secondary sector, over the same period, was never dominant in New Zealand (indeed it has usually been substantially smaller than either of the other two sectors). Table I presents his findings.⁶⁸

ESTIMATED INDUSTRIAL STRUCTURE, 1874-1936

	Primary	Secondary	Service
1874	44	24	32
1901	36	28	36
1921	30	27	43
1936	31	30	39

The main outlines of Thompson's conclusion were well known much earlier, of course, and had even persuaded some socialists to reconsider their theory about the social consequences of

⁶⁸'Industrial Structure of the Workforce', *Population of New Zealand*, vol. 2, Table 257, p. 115. Thompson, of course, faced similar problems to those identified here because in this respect also the Census sacrificed comparability over time for perfection at a particular point in time, an a-

capitalist development. Nobody seemed to doubt, however, that in the long run New Zealand would follow the trend.⁶⁹

The peculiar shape of New Zealand's industrial structure during this formative historical period need not detain us here. The underlying purpose of the Registrar General, however, perhaps explains another frustrating feature of the occupational statistics. It has long been recognised that economic and technological change create occupational changes and that every Census in the world tried to measure these by inventing new names and taxonomies. New occupations proliferated, old ones disappeared, and people did not always invent new names for the new jobs or discard old names when the nature of the job changed completely. The problem is most acute in industries undergoing rapid technological change. The second industrial revolution, characterised by new forms of energy, notably electricity and petroleum, revolutionised older industries such as clothing and bootmaking and created new ones such as electrical engineering. Occupations which the Census used to describe women in the clothing trades, to take an extreme example, were sometimes not used at all in the subsequent census, some other description being preferred, making it impossible to ascertain with any confidence who was doing what to which garment. Given the fact that the Census was mainly interested in the sectoral analysis this did not matter, but it creates intractable problems for scholars today. All we can do is identify the extent of those problems.⁷⁰

IV

In 1928 the League of Nations established a Committee of Statistical Experts to investigate and make recommendations about the way in which member states collected and analysed statistical information. In 1937 New Zealand (and other members) received a report on 'Uniformity of Statistics of

⁶⁹I have examined the issue from another perspective in 'W.T. Mills, E.J.B. Allen, J.A. Lee and socialism in New Zealand', *New Zealand Journal of History*, vol. 10 (Oct. 1976), pp. 112-29.

⁷⁰I have explored some of these in more detail in 'Women, Work and Society, 1880-1926', in Phillida Bunkle and Beryl Hughes (eds.), *Women in New Zealand Society*, Wellington, 1981, pp. 161-67. For the second industrial revolution generally see David Landes, *Unbound Prometheus: Technological Change and Industrial Development from 1750 to the*

Occupations and Industries'.⁷¹ The League wanted to achieve a measure of uniformity to facilitate cross-national comparisons and to this end the Committee had produced an 'International Minimum Nomenclature of branches of economic activity and a classification by personal status as a basis for the grouping of occupied persons'. (Personal status referred to the distinction between employer, working on own account, and employee). Cruickshank was asked to study the document and report. His response provides the most complete discussion of the subject to survive. He began by pointing out that New Zealand had always tried to construct an industrial and an occupational census on a wing and a prayer, to use a metaphor which would soon be popular. A thorough census would require 'something like a modified dictionary of occupations' and a lot more knowledge about specific industries. Then detailed codes would have to be prepared (the British one, he added, ran to many volumes and had taken years to produce).⁷² He doubted whether the outcome would warrant the expense, especially given the Labour Government's express objective of 'indefinitely expanding the principle of state ownership ...'. 'Our present practise', he continued, 'derives really from the separation of industries and occupations and other principles laid down by resolutions of the ... 1920 London conference of Empire Statisticians. In order to achieve uniformity we abandoned the old classification (which itself was an Australasian standard resulting ... from Australian and New Zealand statistical conferences) and formed our new one of the lines of the English which was supposed to comply with the resolutions.'

Cruikshank strongly supported adopting the League's taxonomy but argued that the industrial census was much more useful than the occupational one. 'The ideal, of course, ... is industries by occupations. We did this in 1921, treating major cases only, but it was too big and was dropped in 1926.' 'Our occupational classification is really a hybrid. There are so many occupations which cannot be distinguished without reference to the industry. Hence such frequent items as "ammunition factory worker, n.e.i.".'⁷³ He then provided a detailed analysis of the League Committee's report and wrote a covering note to the Government

⁷¹*Report of the Committee of Statistical Experts ... Sixth Session: Report by the Swedish Representative, 22 May 1937*, filed in Statistics Series 1, 13/8/56/

⁷²The historian can only regret that the attempt was not made. In the United States the first dictionary of occupations, prepared by the Census Office, appeared in the early 1940s and in 1948 the British published a *Standard Industrial Classification*.

⁷³... ..

Statistician, J.W. Butcher, recommending that New Zealand 'swallow the resolution en bloc'. 'In view of the comparatively elementary industrial development here', he saw little point replying to the Secretary-General because our experience would be irrelevant to countries 'with much more developed industrialism'. The Prime Minister, M.J. Savage, disagreed, and used Cruickshank's lengthy memorandum to respond to the Secretary-General.⁷⁴

Savage began by pointing out that New Zealand used a very similar definition of gainfully employed except that inmates of prisons and asylums were now included on the grounds that 'these people are only temporarily divorced from their occupations'. New Zealand also already classified occupations according to (a) the branch of economic activity; (b) personal status; and (c) individual occupation. For 'personal status', however, the New Zealand categories were more refined than those recommended by the League's Statistical Committee. Savage then illustrated the point with a brief discussion of foremen's status but failed to take up the issue to which Cruickshank had devoted some attention, the status of those who worked for a head of family but were not paid a wage or salary. Cruickshank had probed the difficulty posed by using 'family'. Since 1886 the New Zealand *Census* had asked 'relatives assisting' but not receiving a wage or salary to list themselves, and this column obviously captured a distinctive aspect of the New Zealand economy (the British used a similar question). Whereas the British complained that most families had at least two wage earners, making the definition of 'head' problematic, this clearly was not much of a problem in New Zealand.⁷⁵

In Geneva the Statistical Committee wrestled with the task of making a final report. Like the small New Zealand Census office, the League's Committee concluded that the occupational census was much less valuable than an industrial census. They concluded that a total enumeration of all occupations would be well nigh impossible and of limited use anyway. 'The Committee further discussed the possibility of grouping workers according to whether they are skilled, semi-skilled or unskilled; but the experience of several countries has clearly shown that no such grouping is possible on the basis of descriptions of their

⁷⁴'Notes on Resolutions by the League of Nations' and covering note from Cruickshank to Butcher, 22 Dec. 1937, Statistics Series 1, 13/8/56, and Savage to Secretary-General, 24 May 1938, *ibid.*

⁷⁵'Observations on the Report dated 29th April 1937' Statistics, Series 1,

occupations given by the individuals enumerated.' Besides, occupational labels varied considerably in meaning across both time and space. 'For all these reasons, the Committee believes that it is neither practical nor desirable to prepare a detailed draft nomenclature of occupations.'⁷⁶

Not surprisingly New Zealand decided to persist with Industry by Occupation. As the British had remarked with regard to the League Committee's draft report, 'Occupation and Industry Statistics, each with their extensive nomenclatures and cross analyses by sex, age, marital condition and industrial status are already amongst the most difficult and complex of all census subjects in this country ...'.⁷⁷ Doubtless because of this the Census office asked W. Butterworth, a new clerk, to look carefully at the way in which the 1936 industrial-by-occupation census had been constructed and analysed. He criticised every aspect of that *Census*. The lack of glossaries, trained supervisors, 'poor coding', and slipshod work in entering results and making calculations meant that the results were of doubtful worth (a point which Cruickshank had made previously). As an example of 'poor coding' Butterworth pointed out that 'sheep farming' included fish breeders, wheat farmers, orchardists, hop, grape and tomato growers. Eighty electric linesmen had been entered as blacksmiths and 87 stockmen had been assigned to the hop-growing industry. Worse, many occupations had several different code numbers, and 'these appear to have been used indiscriminately'. Butterworth checked 'The whole of the occupations and industries coding ... and the attached tables are not very complimentary to the checking staff'.⁷⁸ Anybody who has attempted the task will readily appreciate the force of Butterworth's comments, even if they sympathise with the clerks.

It must be borne in mind, however, that the most serious problems emerged from the attempt to construct a taxonomy along two axes, occupation and industry. The detailed lists of occupations and the numbers engaged in them, together with their elaborate footnotes, provide a basis for constructing an occupational classification from 1891 onwards, when the occupations were cross-tabulated by personal status, although

⁷⁶*Studies and Reports on Statistical Methods, no. 1, Statistics of the Gainfully-Occupied Population Definitions and Classifications Recommended by the Committee of Statistical Experts, Geneva, 1938, pp. 18-19* (a copy is in Statistics, Series 1, 13/8/56).

⁷⁷'Observations on the Report dated 29th April 1937 ...', Statistics, Series 1, 13/8/56.

⁷⁸'...', Statistics, Series 1, 13/8/56.

the elimination of confusing conflations still had a long way to go and each industrial category retained a sizeable residual category of 'others'. Although the alphabetical list was compiled from the table of detailed occupations it helps to cross-check all conflations by using this table as well. In this way it is possible to establish New Zealand's occupational structure with some precision. Unfortunately the 1921 Census, abruptly redesigned following the Imperial conference, is so idiosyncratic that it cannot be used in constructing a time series. In 1926, fortunately, the Census abandoned the 1921 experiment and once more used the categories and concepts developed between 1881 and 1916 while sharply reducing the number of actual occupations listed from 1823 in 1901 to 929 in 1926. For the first time, however, in 1926 the table is easily used, no cross-checking is needed, and under 19 of the 25 sectoral heads the employers are totalled. The desire for international comparability saw the enumeration of the self-employed dropped from the main table although a figure was provided in another table. They may have been considered a dying and insignificant social group.⁷⁹

Following the Second World War, when the United Nations picked up where the League had left off, the Census office made another substantial effort to review its occupational classifications. It still proved impossible to escape the long legacy of privileging the industrial taxonomy (the United States, interestingly, adopted an occupational classification based on socio-economic status in 1940).⁸⁰ As Catherine Smith has shown, in her study of hairdressers, the Census remains a major source of confusion. In 1926 the Census classified 'hairdresser, barber' as Commercial, but 'toilet specialists', women who dealt with women's hair, were classified as Personal and Domestic. In 1936 the Census tried to eliminate confusion in 'hairdresser, barber' by refining it further, inventing a new classification for 'tobacconist (including tobacconist and hairdresser, not otherwise defined)'. This was placed in Financial and Commercial. In 1945 this arrangement continued but 'hairdresser, barber' now joined 'toilet specialist' in Personal and Service. No occupational statistics appeared in the 1951 Census - and given what happened in 1921 the loss cannot be deemed unfortunate - but in 1956 and in 1961 the Census produced a new conflation - 'hairdressers, beauticians

⁷⁹Although it makes sense that employers were not reported separately for Public Administration it seems surprising to find none reported for Fishers and Trappers let alone Agricultural-Pastoral. See also n. 30.

⁸⁰Conk, pp. 62-3, 68 (although she concluded that 'the classification was still

and related workers' and classified them all as Service Workers and Workers in Entertainment, Sport and Recreation (a new taxonomic category). The concept of 'related workers' contained as many problems as the older residual category, 'other'. Manicurists, beauty specialists, barbers, hairdressers and anybody else employed in their shops, including clerks and salesmen/women, are buried together.⁸¹ What the Census joined together, nobody can now separate.

V

The history usefully highlights the difficulties in selecting systemic principles, operating across the entire society, for classifying occupations by status or class. The Census office preferred an industrial scheme, although that simple word industry was far from simple when the entire number of gainfully employed had to be classified. Interestingly enough the major categories, derived from political economy, were broadly agreed upon in each generation even though they changed over time. The five used in the mid-nineteenth century came to be disaggregated. Each disaggregation - as when Professional and Service became two classes - then had to be systematically worked though each specific occupation, a process which usually took a few censuses to get broadly right. As a result, however, specific occupations were often moved from one category to another in successive censuses. By the 1930s, when the League's Committee of Statisticians grappled with the problem, the modern distinctions between primary, secondary, and 'transforming' (or service) activities had been made. As we have seen, this appears to have been the Registrar General's major purpose from 1874 onwards. And although an occupational classification is central to the analysis of such important social behaviours as social/geographical mobility, it can never be divorced from the industrial structure.

The sectoral structure of society was not the Registrar General's only goal, or even his main one. Until about World War I the various occupational tables measured the growth and increasing complexity of both the economy and society. They provided - and still provide - an accurate chart of the shift from a colonial economy, dominated by extractive and pastoral industries and a high proportion of unskilled workers, to a more 'developed' economy and society. Until that point many New Zealanders believed in the venerable vision of New Zealand as the Britain of

⁸¹ *Journal of the Royal Statistical Society*, 1907, 1, 1007.

the South Seas, an industrial metropolis for a Pacific empire. The Census measured progress. Here, as in the United States and Great Britain, the Census measured industrial occupations with much more care than it devoted to transport and service. In key sectors, such as woollen mills and freezing works, the developing division of labour was followed with obsessional interest.⁸² At the same time, although not apparent from within the Census, the information collected was increasingly used to shape public policy relating to health, welfare, public works, immigration, and education. The War brought other demands, not least Government's desire to identify which orders and sub-orders of workers were essential to essential industries (i.e. industries which contributed to the Empire's war effort). Following the War the occupational census increasingly reflected our century's belief that occupation provided a key to understanding a wide range of social problems and major forms of inequality. It was also a clue to urbanisation and its attendant moral evils, including the dramatic decline in fertility. Our contemporary recognition that occupation is central to social structure, and some major inequalities, had a protracted gestation and birth. Because the occupational order and structure continually change, however, we can never rest content that we have solved the problem. The price of knowledge is eternal vigilance.

As the 'results' of 'social-scientific' research became more widely known people began to assume that links existed between certain categories of occupation and particular social problems. In the 1890s unemployment led the way, but by World War I policy makers believed that occupation provided the key to income, quality of life, health, and other social outcomes. Poverty, 'slums', disease, and behaviour such as crime/prostitution were widely viewed as urban and widely suspected of being most common among the least skilled, thus requiring the occupational census to bear an explanatory weight. In the *Census* for 1916, 1921, and 1926 the Statistics office tried to collect information on census night that would allow these relationships to be analysed so that policy could be developed to solve the problems. The increased professionalisation of the Government Statistician's office and the new questions saw a vigorous effort made to collect more information and to refine its occupational classification. Problems remained, however, but the major concern remained the industrial census, Now, however, interest focussed less on the colony's development than on each industrial sector's 'capacity to afford employment ...'. This

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capacity was not only relevant to the increasingly important issue of unemployment, itself the subject of inquiry in 1928-30, but because the development of the primary and industrial sectors 'will determine to a very large extent the future population of New Zealand'.⁸³

Erik Olssen,
FRST Caversham, Occupation Working Paper I
University of Otago

⁸³'Industrial and Occupational Distribution.- Introductory Notes', *1926 New Zealand Yearbook of International Law*, Vol. 6, No. 1, p. 1007.