

P A R T I I
COLONIAL STATISTICS 1855-1900

INTRODUCTION

WHEN THE AUSTRALIAN COLONIES of New South Wales, Victoria, Tasmania and South Australia obtained self-government in 1855-56, they no longer had the obligation and discipline of producing statistics to meet the requirements of the Colonial Office. These statistics had been required to assist in the administration of an empire, but it has been shown that the colonies had already taken some steps to produce statistics to meet local needs. Now it was entirely for the colonies themselves to decide on the range and quality of their statistical records. Inevitably, there was a transition period and equally the responses of the colonies, although there were marked similarities, were different. What stands out in this period is the statistical work done in the two main colonies of Victoria and New South Wales. This work was associated in different periods with three distinguished statisticians: W. H. Archer and H. H. Hayter in Victoria and T. A. Coghlan in New South Wales.

In what follows, the discussion relates to three main themes: first, there is the production of an array of general statistics usually published in annual form; here, emphasis is placed on the volume which brought together these statistics, commonly called the 'statistical register', and on the 'year book' which commented on them.⁸⁹ The second theme is the carrying out of the regular population censuses, and the third bears on the relations between the colonial statisticians and the attempts to co-ordinate their work. These themes are combined within three historical stages associated with the three leading statisticians: Archer in Victoria between 1853 and 1874, Hayter in Victoria from 1874 to 1886 and Coghlan in New South Wales from 1886 to the end of the century. In these periods the focus is placed on these particular colonies, but work in other colonies is also considered.⁹⁰

W. H. ARCHER AND OFFICIAL STATISTICS 1853-1874

W. H. Archer was born in 1825 in London. In 1841 he took employment with the Medical, Invalid and General Life Assurance Co. as a clerk under the actuary, F. G. P. Neison. Converted to Roman Catholicism in 1848 he took a professional interest in Catholic friendly societies, and in 1850 became the managing actuary to the Catholic, Law and General Life Assurance Co. This position could not be sustained by the company, and Archer, following his brother, migrated to Melbourne in 1852.⁹¹

Archer's statistical apprenticeship and development were obtained when, for the first time, the systematic collection and analysis of social and economic statistics were being attempted in England. This 'statistical movement' has been identified by historians as one of the significant features of the period.⁹² Its main institutional aspects were the foundation of the Statistical Society of London (later Royal Statistical Society) in 1834, and the establishment of two government institutions: the Statistical Department of the Board of Trade in 1832 and, in 1837, the General Register Office to collect and collate figures on births, deaths and marriages.

In the 1840s a strong emphasis was placed on the need for accurate social statistics, especially those bearing on health and education, so as to obtain the knowledge with which to reform and improve society.⁹³ Two statisticians of the period had particular influence on Archer. One was the great William Farr who had a special interest in medical statistics; he corresponded with Archer throughout his life. The other was Neison, Archer's original employer. He was a professional statistician of standing, and his criticisms made him 'something of the *enfant terrible* of social statistics in the 1840s'.⁹⁴ Archer was later to say that 'all my Studies and previous habits of life have been moulded under the ablest Actuary in England . . .'.⁹⁵

Archer's arrival in Melbourne in November 1852 was propitious. Victoria had been established as a colony separate from New South Wales in 1851, and until self-government was obtained in 1855, effective power lay with the Lieutenant-Governor and his nominated Council. The new colony needed able administrators, and the gold bonanza helped to provide the means to pay for them.⁹⁶ More immediately, in January 1853 an Act was passed for the civil registration of births, deaths and marriages⁹⁷ and, in February 1853, as Archer put it: 'the Colonial Secretary . . . placed in my hand the Act . . . requesting me to draw up a general plan for the guidance of the Registrar General, and rules in detail for the Deputy Registrars of Births and Deaths'.⁹⁸

Archer's instructions on 25 February were 'at a moment's warning both unexpectedly and unprepared'.⁹⁹ Nevertheless, he was able through two communications on 10 March and 22 March to respond quickly and fully to his commission, and the Colonial Secretary expressed his satisfaction: 'Let every arrangement be made as far as possible to carry the system proposed into effect—emendations and alterations may be made according to circumstances'.¹⁰⁰

Archer was assisted, no doubt, by the fact that he brought with him from England 'the labors of many years under Mr. Neison'.¹⁰¹ Indeed, his proposals drew heavily on English experience and practice. In his 'Preliminary Remarks' he strongly recommended that the districts defined for registration and for the population censuses should be identical. Unless this was done 'a thousand social problems of vital interest to a state must remain wholly unsolved'.¹⁰² The absence of this identity in England had drawn Neison's strong criticism in 1845.¹⁰³ In another and marked improvement on English practice, Archer recommended more details in the birth, death and marriage schedules 'in accordance with a report made by a Registration Committee appointed by the Council of the Statistical Society of London'.¹⁰⁴

It is clear that in his proposals Archer saw himself as the agent for the establishment of the profession of statistics in the Australian colonies. He noted that the Act called on the 'Chief Registrar' to provide annually a general abstract of the number of births, deaths and marriages. He continued:

The proper compilation of such a document can be done by a Statist only. In England this duty has been performed by William Farr in a way to raise that nation in a Statistical point of view, to a high position in the eyes of the scientific and legislative world. And it has brought him into communication with the ablest statist on the continent, where the System of Numerical Observation has been carried to a degree of refinement, and a scientific excellence worthy of emulation by every state; particularly by the Colony of Victoria, in which is opened up a new and rich field for the cultivation of that most important branch of modern Philosophy Vital Statistics. The Government Statist of Victoria would doubtless find ready and willing operators in every direction; as all scientific minds must at once see the value of the peculiar developments likely to be manifested under the very singular social condition of the Inhabitants of this Colony.¹⁰⁵

The whole emphasis of Archer's recommendations was on the collection of social statistics, especially as in the English tradition, those that bore on health and education:

After the great mass of material has been stored, then will come the necessity of analysing it, classifying it and deducing from it the general laws that govern our existence in relation to health, disease and morals.¹⁰⁶

Some particular areas in which Archer thought work could be done included 'the Sanatory Condition of the Registrars' Districts, and the state of Crime, Lunacy and Education with the extent of disease and intemperance among the general population'.¹⁰⁷

Along with making recommendations for registration of births, deaths and marriages, Archer had been asked to prepare the *Blue Book* and a consequent collection of general statistics. Such tasks had been performed in the colonies in the office of the Colonial Secretary. In his report, Archer recommended in a few lines that the Registrar General, as one of his minor duties, should prepare the *Blue Book*. It may be that Archer thought it natural that the task should accompany his person. In fact, this was a development of significance. For the first time, the collation of general statistics was to be performed by the officer responsible for collecting and analysing an array of vital and social statistics. What had begun was the establishment of the Registrar General as the statistical officer for the Victorian Government.

Archer began the preparation of his first *Blue Book* on 11 March, the day after his first report. A major problem was to obtain the statistical returns from the heads of various government organisations: Archer found that not all returns had been made, and of those that had, only five were satisfactory; the ultimate threat of stoppage of salary had to be invoked. The *Blue Book* was completed by 21 July to the Governor's satisfaction, and Archer was then given the task of writing the accompanying dispatch. Concurrently with the preparation of the *Blue Book*, he threw himself into setting up the administrative system for the registrations of births, deaths and marriages.

Archer's ability and vigour were recognised to the extent that he was made Acting Registrar-General from 1 July to the end of the year, but his hope of being confirmed in that position was not fulfilled. He was informed in August that the office was to go to the Governor's private secretary, Major E.S.N. Campbell. Archer, who had previously been promised by the Governor that, whatever the decision, he would retain a degree of independence, was made Assistant Registrar-General.¹⁰⁸ It is reported that the two men 'worked well together and held each other in high esteem'.¹⁰⁹ After Campbell's death in January 1859, Archer was made Registrar-General, a position he held until 1874.

It took several years for the system of registration to come into full operation. Clergymen had to be instructed on the use of marriage forms; medical men educated in the use of William Farr's nosological table. A colony-wide network



W. H. Archer
University of Melbourne Archives

of deputy and assistant registrars to record births and deaths had to be established. For this latter task Archer rode the countryside during 1853 and 1854 recruiting

suitable men who could cope with distance and scattered habitation.¹¹⁰ He selected all sorts: 'settlers, medical men, clerks of the peace and petty sessions, schoolmasters, postmasters, chemists and druggists, and sometimes storekeepers'.¹¹¹ But he preferred medical men: 'they are about a good deal among their patients; they know personally or by repute most other people in their district, and are found to be intelligent and efficient agents'.¹¹² In April 1855, 127 registration officers were employed and 133 ministers of religion registered marriages.¹¹³ It was thought best, as far as possible, to avoid connection with the legal system. Popular distrust would have reduced registrations. Indeed, Archer was warned that some Irish, especially recent arrivals, avoided the Registration Officer: 'They suspected something disadvantageous would eventually result from it—on the part of the Government'.¹¹⁴

When the whole system was in place, Archer believed he had created something unique.

England has nothing so complete, nor has any other country that I am aware of. Victoria has therefore the honour of being the first to work out so uniform and elaborate a system; and hence the Mother country may learn something in the practice of the youngest of its Colonies.¹¹⁵

Victorian Annual Statistics

In 1852 a statistical collection was printed by order of the Victorian Legislative Council entitled *Statistics of the Port Phillip District, (Now the Colony of Victoria) for the Year 1850*. Only thirty-five pages in length, it had its origins in the *Blue Book* and in form was simply a continuation of the series begun for New South Wales in the 1840s.

Archer was responsible for the next collection for 1852 entitled *Statistics of the Colony of Victoria*. This began a series which appeared annually under this name up to 1873, becoming the *Statistical Register* in 1874. This volume of forty-one foolscap pages was produced by Archer in the first hectic months of his appointment, and he felt it necessary to introduce them with an apology:

The 'Annual Statistics', being a formal document, the precedents of previous years have been strictly followed, and no important modification of the Tabular Matter has been made. The information had been applied for according to the old forms, before my appointment, and nothing was left for me but to make use of the particulars obtained in the old way.¹¹⁶

However, he went on to promise better things:

In future, more precise and methodized results will be obtainable with regard to the Statistics of the Colony, His Excellency having honored me with commands to prepare an 'Annual Register,' which, I trust, will prove a truthful reflex of the Social and Physical Condition of Victoria throughout every coming year.¹¹⁷

It was probably the Governor's 'commands', referred to by Archer, which were responsible for his production in 1854 of a curious volume entitled *The Statistical Register of Victoria, From the Foundation of the Colony with an Astronomical Calendar for 1855*.¹¹⁸ The work of 447 pages gave principal space to the astronomical calendar; a rural calendar; a list of legislation, proclamations and proceedings of Council; an examination of the Registrar General's Department; and miscellaneous statistics between 1841 and 1853.

Archer saw the book as 'a humble attempt to commence a series of Registers, or Books of Reference, that may from time to time faithfully reflect the progress of this extraordinary Colony'. He acknowledged that 'mechanical difficulties' and 'pressure of multifarious duties' had given it 'somewhat of a fragmentary character'. And this was

in spite of the 'warm interest' of Governor La Trobe, who 'read over with me several of the proofs . . .'.¹¹⁹

As well as this single volume of Archer's, produced in 1854, the mainstream of *Statistics of the Colony of Victoria* continued. The 1853 introduction apologised, as it had in 1852, for the quality of the statistics. It maintained that what was 'urgently needed' was 'a more reliable and efficient system of collecting statistics, than that which has hitherto prevailed . . .'.¹²⁰ The agricultural statistics, which were collected by the police, were acknowledged to be most inaccurate. As a result, the Registrar General said that he

proposed to try this year the experiment of collecting, through the medium of the Registrars, instead of that of the police constables, the materials for the various returns required for the Blue Book . . .¹²¹

The use of his own department in the collection of agricultural statistics further strengthened the role of the Registrar General as the statistical officer for the government.

At first, the Deputy Registrars had had only moderate success in their attempts to gather the agricultural statistics:

It is more difficult in many cases to obtain information from the parties who alone are able to supply it, owing to prejudice or misconception of the objects of an enquiry which they deem to be inquisitorial, and it has happened in some instances that not only have gates been barred and dogs unloosed on the approach of the Collectors, but abusive language has been showered upon them, as the supposed precursors of increased taxation.¹²²

The 1855 *Statistics* were largely given over to the agricultural returns, but the Registrar General had to admit that 'that accuracy of the information . . . must . . . remain a matter of opinion . . .'.¹²³ However, rapid improvement was claimed. For the 1858 returns, the Registrar General noted that 'the collectors are unanimous in bearing testimony to the general willingness of the people to afford them every information and assistance'.¹²⁴ And by the early 1860s Archer could boast of the achievement:

Upon the whole, the machinery employed to procure these statistics may be considered to answer its purpose admirably well, and I believe that the returns, both in point of accuracy, and also in regard to the interesting nature of the details they exhibit, are fully equal, if not superior, to the agricultural statistics of any other country.¹²⁵

1861 marks something of a landmark in the development of the annual statistics. Previously, the contents had not been organised in any systematic manner; in 1861 the format below was developed, and was maintained for the rest of the century.¹²⁶

STATISTICS OF THE COLONY OF VICTORIA FOR THE YEAR 1861

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Not only was the formal shape of the volume determined in 1861, but the general thrust of the statistics had been made clear—especially by developments over the previous three years. During this period, the space devoted to statistics (not including the Civil Establishment) grew by some 275 pages. New material included: vital statistics; population material from the census; much more detailed information on foreign trade relating to value, quantity and country of origin or destination; a section on wages and prices; employment and power in manufacturing; and sundry statistics on migration, railways, intestate estates and banking.¹²⁷

Between 1861 and 1872, the last year for which Archer was responsible, developments were not so marked. The statistics grew by some 75 pages, including friendly societies and more material relating to crime and punishment. The most significant change took place in the collection of agricultural and manufacturing statistics, where, Archer's claims notwithstanding, all was not well. At least by 1863, tenders were being called for the jobs of the collectors.¹²⁸ In 1868 and 1869 Crown-lands bailiffs were used. Then in 1870 because, it was claimed, of the expense and the dissatisfaction with the quality of the figures, the job was given to the local authorities.¹²⁹ Advantage was taken of amendments to the local government Act in that year to force local authorities, by means of their rate assessors, to collect the statistics. The result was much more detail in agricultural and manufacturing statistics, which were claimed to be 'most accurate'.¹³⁰

Annual Statistics in Other Colonies: Production and Uniformity

Developments in other colonies followed a similar pattern to that in Victoria. But in the transition from the limited statistics of the *Blue Book* to the more wide-ranging statistics collected and presented primarily for local needs, Victoria was the pace-setter and example. In New South Wales annual volumes of statistics were published by the Colonial Secretary until 1857. From 1858, following the Victorian precedent, this responsibility was given to the Registrar General, C. Rolleston, who in that year produced the first *Statistical Register* for New South Wales. He saw his task as combining a condensed *Blue Book* with the annual statistical volume 'under a new title . . .'.¹³¹ He wrote immediately to Archer that he would 'like to be favored with a copy of all your general Tables, viz—Agricultural, Commercial, Mining, Manufacturing etc'.¹³² He later acknowledged Archer's leadership: 'I don't pretend to compete with you in the field of statistics. I am rather a humble disciple . . .'.¹³³

Within a year of taking on his new statistical task, Rolleston saw himself as the 'Government Statist',¹³⁴ and rather grudgingly accepted one of the duties.

For the information of the general public, who are not very well disposed to wade through the mass of Tabular Statements of which the *Statistical Register* is composed, it seems to be considered desirable that the compiler should enter upon a sort of analysis of the returns, point out the more striking features, and shew, with the aid of as few figures as possible, the comparative progress of the year past with others that have gone before it,—in fact, that the Government Statist should do that which is more properly the business of individual inquirers, and of the people themselves.¹³⁵

He thought there had been an improvement in New South Wales statistics, but 'we can never hope to attain such perfection as has been arrived at in the sister Colony of Victoria with regard both to punctuality and reliability'.¹³⁶

In 1862 the statistics in the *Register* were classified under seven headings, similar to, but not identical with, those in Victoria. In the same year, Rolleston repeated earlier comments on the unreliability of the agricultural statistics, and recommended

strongly that New South Wales should adopt the Victorian method of using the officers of the Registrar General to collect them rather than the police.¹³⁷

The first *Statistical Register* appeared in South Australia for the year 1859. The first Queensland *Register* for 1860, the year after separation from New South Wales, was modelled closely on the example of that State.¹³⁸ The lack of uniformity in the coverage and presentation of the statistics in these annual volumes was felt keenly in some colonies. The superintendent of the South Australia census reported that Rolleston and the New South Wales Government urged action, and that:

The Government of Victoria expressed a hope that the views of Mr Archer, to the effect that the three colonies should 'not only unite in regard to the enumeration of the people, but to recast and assimilate, in concert, all 'blue book' and other statistics, on a scientific and practical basis,' would meet with the concurrence of the Government of New South Wales and South Australia . . .¹³⁹

The South Australian Government responded to these views and the 1859 *Statistical Register* was the result. Nevertheless, in South Australia this was regarded as only a 'preliminary step' towards unity.¹⁴⁰ Pressure for a meeting of statisticians built up, and it is claimed that the decisive initiative came from the Governor of South Australia, who obtained the backing of the British Government.¹⁴¹ He wanted a meeting in order to:

. . . not merely arrange there the forms of the most important and general statistical tables common to all these Colonies, but more especially investigate the process of obtaining, in the first instance, the details summed up afterwards in the annual statistical returns of each Colony.¹⁴²

Melbourne was recommended as the meeting place 'as the most central capital',¹⁴³ and the conference took place during October–November 1861.

There were local reasons for the conference, but what was happening was representative of a wider scene. The rapidly growing acceptance in advanced countries of the need for official social and economic statistics had led to international moves for statistical co-ordination and standardisation. The first international conference was held at Brussels in 1853. The year before the Australian meeting, the European International Statistical Congress was held in London in 1860. Archer had written to Farr that he was 'unable to get to England'¹⁴⁴, but all the self-governing Australian colonies sent representatives.

The Melbourne Conference was attended by the Registrars General of Victoria, New South Wales and Queensland and the South Australian Superintendent of the Census. Discussion centred on obtaining agreement on practical steps to achieve a degree of uniformity in content and classification of the annual statistical publications. Archer 'presided' and was the dominant figure.¹⁴⁵ At the final meeting:

Documents illustrative of the system pursued in Victoria relating to the collection and tabulation of Blue Book and Census data were handed in . . . Mr Archer undertook to construct a model of a Statistical Year Book based on the resolutions of the conference just held such as would be suitable for Victoria and to submit it for consideration and final approval to the representatives of the other colonies as soon as it would be possible to do so.¹⁴⁶

Population Censuses

Since the taking of the census had always been in local hands, the obtaining of self-government could not be expected to bring significant changes. The Victorian experience at this time was somewhat different from the other colonies. The 1851

census had been carried out as part of New South Wales, but separation meant the establishment of its own census administration while at the same time society was transformed by the inrush of population. Such change was being experienced that it was felt necessary to follow the 1851 census with two more within a short period—in April 1854 and March 1857. Responsibility for the 1854 census was given with very short notice to the newly-created office of the Registrar General. Previous censuses in the Australian colonies had been conducted by the Colonial Secretary. In his Report, the Registrar General described the circumstances of the difficult environment he found:

. . . a new country . . . about the size of England, Wales and Ireland united, devoid for the most part of public roads . . . and in some parts absolutely impracticable for travellers . . . These natural difficulties were in no small degree enhanced by the prejudice which unfortunately existed in the minds of many of the uneducated portion of the community against what was conceived to be an inquisitorial proceeding, and by the unsettled habits of a large body of the people perpetually on the move from one gold field to another by various routes, and whom it was exceedingly difficult to overtake. The absence of recent and complete maps was also much felt.¹⁴⁷

The speed of preparation gave little time to prepare the population or to train the enumerators: 'Many of the 45,880 schedules were almost as difficult to decipher as an Egyptian inscription; not to mention the Chinese returns . . .'.¹⁴⁸ The schedules themselves were of the form employed in the United Kingdom, adapted by Archer to the conditions of the Colony. Questions were directed towards age and sex, religion, conjugal condition, education, occupation and birth place. As compared with the 1851 census, there were no questions on 'civil condition' (convict, freed or free) and housing. The form of presentation of the results of the census followed the example of the British Census of 1851, especially since it was 'considered advisable . . . to comply with the expressed desire of scientific men at home, that the statistics of every part of the Empire should be drawn up on one uniform plan'.¹⁴⁹ There was nothing novel in the questions on the census schedule, apart from the classification of occupations. In 1851 the British had adopted a classification made by William Farr, and in 1854 Archer followed suit. The problem of occupational classification was to develop as an important cause of disagreement between the colonial statisticians. It is discussed later.

There were reservations concerning the accuracy of the 1854 census. More confidence was placed in the results of the 1857 census, because of the more careful preparation and the more settled nature of the population. Housing was added to the list of questions.¹⁵⁰

Along with the attempts to produce uniform annual statistics in the second half of the 1850s, discussions and negotiations began to hold a census in 1861 in all the Australian colonies on the same date as that in Great Britain and Ireland. Victoria, New South Wales and South Australia were the main proponents. Archer wrote to Farr in 1859:

The Governor of South Australia is desirous to aid in securing a uniform Census throughout these Colonies in the Year 1861, when the South Australians are to have their Census. The Registrar General of New South Wales and myself, wish to have it on the day of the English Census in 1861 & I am anxious at all events that Victoria and England should be enumerated in the same 24 hours. If you could kindly moot this at your Congress, and stamp the notion with your approbation, it will filip the Australian Governments and support my efforts amazingly.¹⁵¹

The South Australian Superintendent of the Census indicated some of the benefits that resulted from this attempt at co-ordination:

Considerable correspondence ensued with the Imperial and Local Governments in the arrangement of the facts to be inquired into, and the mode of procedure to be adopted in tabulating the results obtained, the effect being a valuable addition to our knowledge as respects existing methods, and the formation of the basis of one uniform system . . .¹⁵²

In the event, four colonies, Victoria, New South Wales, South Australia and Tasmania held their censuses within 24 hours of 7 April 1861. For the first time other colonies adopted the occupational classification used by Britain in 1851; the South Australian Superintendent had a slightly different emphasis:

The general grouping is precisely similar to that of Victoria, which was recommended as most serviceable by Mr. Archer, the Registrar-General; . . . It is also practically the same as that of Great Britain . . .¹⁵³

Only three colonies, Victoria, New South Wales, and South Australia held their censuses on the same day in 1871.

Assessment

'We are all delighted to have hit upon you Mr. Archer. You have the head that we wanted.'¹⁵⁴ La Trobe's early assessment was to the point. Victoria was extremely fortunate to obtain as its first statistician a man who had just completed his statistical training in England when, for the first time, considerable attention was being paid to the recording, collection and analysis of a large range of statistics.

There were two outstandingly weak areas of statistics in the old *Blue Books*. One was vital statistics which depended mainly on the clergy; the other was agricultural statistics which were collected by the police. Within a few years both had been tackled by Archer. Vital statistics were comprehensively recorded by agents responsible to the Registrar General, and with a wealth of detail far ahead of English practice. Much the same was done for agricultural statistics; a yearly series, and then only with very limited information, did not begin in England until 1868. Improvements were not limited to these two areas, but extended to the general range of annual statistics and the census.

Archer was the dominant colonial statistician. No other statistician had his connections with the wider world in England. His annual statistics were the model for the other colonies. He helped provide the leadership for obtaining uniformity in the schedules and timing of the census. Through his stature, and by combining a number of statistical roles in the one office, he paved the way for the later emergence of the specialised position of government statistician in Victoria and other colonies.

Archer's second decade was not as productive in statistical terms as his first. There is the appearance of administering an office rather than acting creatively. He was involved in political and administrative manoeuvres, studied law, added 'registrar of titles' to his duties in 1868 and then in 1874 was promoted from Registrar General to Secretary of Lands and Survey. During this period, in 1861, 1867 and 1873 he produced 'statistical essays' on 'the progress of Victoria'. These essays, which briefly discussed tables of Victorian statistics, were occasioned by 'exhibitions' held in Melbourne. No significant analysis of statistics emerged. In 1869, in a letter to Farr, he sought advice on administrative matters, complained that administering did not leave him time to work on a mortality problem, and hoped that Farr would make use of 'our Victorian data'.¹⁵⁵

How much of the credit for developments in Victorian statistics from about 1860 should be shared with H. H. Hayter (see later) is not clear. Hayter was a clerk in

the statistical branch, and was later to agree that he had been 'in charge of the office since 1861', and that 'since I have been there' Victoria had tried to be 'foremost in the compilation of statistics'.¹⁵⁶ He also claimed full credit for the taking of the 1871 census.

Whatever the balance of responsibility on the second half of Archer's term, in 1873 he recorded his satisfaction with his own role and with the results:

The statistical records of Australia are not excelled either in fulness or in accuracy by those of any other country; and as the statistical system initiated in Melbourne in 1853 is gradually being followed by statisticians in surrounding states, there is every reason to hope that, at no distant date, thorough unity will exist both of purpose and of action in relation to all the leading lines of statistical work throughout Australasia.¹⁵⁷

H. H. HAYTER—GOVERNMENT STATIST OF VICTORIA

Hayter was born in England in 1821, migrated to Australia in 1852 and in 1857 began his long association with colonial statistics.¹⁵⁸ In May of that year he began a period of temporary work for the Registrar General, which included the task of collecting agricultural statistics from an area in western Victoria.¹⁵⁹ In 1859 he was appointed clerk in the Statistical Branch of the Central Office of the Registrar General; he was soon chief clerk and carried considerable responsibility for the production of Victorian statistics. In 1874, when Archer left, the Statistical Branch was separated from the Registrar General's Office and established as a separate organisation in the Department of the Chief Secretary, 'to deal exclusively with statistics'.¹⁶⁰ Hayter was placed at its head as Government Statist, a position he held until his death in 1895.

The establishment of this separate organisation with Hayter in charge points to the status that both the office and Hayter had attained. It may also represent the fact that the Registrar General's Office had acquired considerable legal duties¹⁶¹, and that Archer was the only man who could span both the legal and statistical aspects. Once established in the new post, Hayter was soon acknowledged as the foremost statistician in Australia.

The Statistical Register

Hayter promptly used the name 'Statistical Register' to describe the volume of Victorian annual statistics. But, essentially, the volume had been created by the time he took office. No radical changes in structure took place, although the collection was improved in various ways. In trade statistics, for example, coverage was extended to include transshipments; more information was provided in such areas as government loans, crime and court activity, and individual manufacturing industries. Manufacturing was reclassified in the same manner as 'occupations' in the Victorian census.

An insight into the methods of collection and compilation of the Victorian statistics was given by Hayter in 1879 in his evidence to the British Official Statistics Committee. The material used in the *Statistical Register* was acquired in a variety of ways, and required different degrees of processing. First, there were government departments which provided statistics in their annual reports and sometimes published them independently; they nevertheless provided statistics for the Government Statist on forms provided by him. Foremost in this group were Customs (trade statistics) and Railways. Other government authorities provided unprocessed or semi-processed material: one

hundred and seventy local authorities returned figures on agriculture, manufacturing, private schools and population numbers on the Statist's forms—there was, for example, a schedule for each agricultural holding; statistics of crime were obtained from the police who filled in a form for each individual—27,000 a year; prisons, friendly societies, banks and savings banks all made returns; tables on births, deaths and marriages were compiled by the Statist's officers from the raw returns at the office of the Registrar General. Some statistics were obtained more directly by the Statist: the decennial census was carried out by him; the statistics generally supplied by local authorities, were collected by the Statist's temporary employees in areas not covered by the legislation—these included Melbourne, Geelong and outlying districts; data on wages and prices were collected by the Statist's staff from newspapers and journals, with the assistance of police in country areas; information on religion was obtained by correspondence with the heads of the different denominations.¹⁶²

This array of material was obtained partly through legal powers given to the Statist, and partly by his use of personal persuasion and pressure. One way or another, he claimed he got all the statistical material he sought.¹⁶³ At the time, the permanent staff of his office who carried out this collection and compilation numbered eight and their annual salaries amounted to £2,700.

The *Statistical Register* was a significant achievement in international terms. The British Committee concluded: 'The system of statistics in this Colony has evidently been elaborated with much care, and appears to have been brought, under Mr. Hayter, into an unusually perfect condition'.¹⁶⁴ Hayter thought such a volume would be possible in Great Britain, and the Secretary of the British Committee was sufficiently impressed to recommend a new statistical department which would

. . . produce annually a complete set of Blue Books, each forming a part or volume of one work, somewhat in the same manner as the several parts of the Statistical Register in the colony of Victoria.¹⁶⁵

An immediate innovation of Hayter's in the 1873 *Statistical Register* was the inclusion of a small section of 'Australasian Statistics' for that year.¹⁶⁶ Hayter mentioned that the Governor of New South Wales, Sir Hercules Robinson, had attempted much the same thing for the last two years. In order to obtain the materials, Hayter drew up a form which he sent off to the other colonies to be filled in; he noted that some had considerable difficulty in obtaining the information.¹⁶⁷ Data on Fiji were added from 1878. In his introduction to the first issue Hayter said his aim was 'to make the tables as comprehensive and clear as possible, and they will, I believe, speak for themselves'.¹⁶⁸ In succeeding years this practice was followed, but from 1875 they drew extensive comment in the *Victorian Year Book*.



H. H. Hayter
Australian Town and Country Journal

*Inter-Colonial Co-operation: Annual
Statistics and the 1881 Census*

In January 1875 statistical representatives of Victoria, New South Wales, South Australia and Tasmania met in Hobart to discuss presenting their statistics on a uniform basis. There was a problem in the absence of three colonies—Queensland and Western Australia had declined to attend and New Zealand had been given insufficient notice. One reason for the meeting was the request from Britain, reflecting the nineteenth century pre-occupation with the subject, for the supply of uniform crime statistics. More importantly, one of the resolutions of the Intercolonial Conference of 1873 had called for action 'to facilitate comparison between the official statistics of the various Australasian colonies . . .'.¹⁶⁹

The statisticians, in their report, made a large number of recommendations which were, in the event, very imperfectly acted upon.¹⁷⁰ Hayter was able to congratulate the Victorian Government that most of the recommendations were intended to bring the other colonies to the Victorian standard. One important recommendation referred to the arrangement of trade statistics. In all colonies commodities were arranged in alphabetical order, and it was resolved that in future they should be classified in the same manner as occupations in the Victorian census—the Farr classification. Even Hayter was partly defeated here. The Customs Department complained 'they would have to alter all their books'¹⁷¹, and Hayter used the Farr classification only in his summary tables in the *Year Book*.

The statisticians also recommended that the population census should be taken on the same day, and with the same schedules and compilation procedures as in the United Kingdom. In fact, the census was carried out on the same day, 3 April 1881, in almost every country in the British empire. But Hayter was bitter that New South Wales was the exception to the uniform compilation of census tables. The Hobart decision, being in general terms, had required further and more specific discussion. According to Hayter, New South Wales proved unco-operative while other colonies consulted and then followed the Victorian example. As a result the New South Wales tables 'especially those relating to the occupations of the people, differ widely from those of Victoria and the other colonies'.¹⁷²

In his Report, Hayter included an account of the methods used in his office to process the returns and compile the tables. One aspect of the account which is particularly interesting is Hayter's claim that the use of a card to record the details of each individual was a world first.¹⁷³ He was proud also of his 'mechanical appliances', which he used to save clerical labour.

I would particularly mention Edison's electric pen, which, as an instrument for multiplying copies of written documents, is perhaps unequalled; numbering machines of simple and correct action, specially made to the order of Messrs Semple and Ramsay of Melbourne; also a French calculating machine, designated *L'Arithmomètre*, by Thomas de Colmar of Paris.¹⁷⁴

The Victorian Year Book

The great reputation that Hayter established depended in part on the presentation of the Victorian statistics in the *Statistical Register*. More important was the production of an annual 'year book', consisting of summary tables of statistics with considerable comment. It was a venture which probably had not been attempted elsewhere in the world on an official basis. In Victoria, as we have seen, somewhat similar publications

had appeared occasionally, but they were more of the nature of statistical histories of the colony. Moreover, from quite modest beginnings, the *Year Book* expanded in scope and content far beyond Hayter's original plan. It was so identified with the man, that locally it was referred to as 'Hayter's Year Book' or simply 'Hayter'. The *Year Book* had its origin in September 1874 'as a report upon the Statistical Register', made 'without instruction', to the Minister of Hayter's department.¹⁷⁵ What was he attempting?

. . . my first object will be to draw up such an analysis of the contents of the tables embraced in the several parts of the Statistics as may be of material assistance to persons whose business or inclination may lead them to consult that work.¹⁷⁶

But, he continued, since some people may not have the *Statistical Register* or may find it heavy going:

. . . it will also be my endeavour to make the Report as complete as possible in itself, and to that end I shall be obliged to quote somewhat largely from the figures embodied in the tables.¹⁷⁷

The report, with only slight modifications, was very quickly published as the *Victorian Year Book*.¹⁷⁸ In his preface, dated October 1874, Hayter gave the reason:

It was, however, considered desirable by the Government that the information contained in the Report should be disseminated somewhat largely, both in this colony and in Europe; and it was thought that if the work were issued in a pamphlet or book form it would be more convenient for reference than if circulated on the large-sized and somewhat formidable looking pages upon which the Parliamentary Papers of this colony are printed.¹⁷⁹

With this encouragement, Hayter said he would produce a similar volume each year, and he proceeded to set out the philosophy that would guide him:

It will be my endeavor in this succession of volumes to record facts with correctness and impartiality; to comment upon them only so far as may be necessary to elucidate them properly; to set up no theories except such as may be fairly deducible from the materials before me; and, in drawing inferences, to exercise perfect fairness to all sections of the community. By keeping these points steadily in view I shall, I trust, be able to give to the world a series of publications which will be of service to persons of many aims and ends not only in Australia but in the mother-country and elsewhere.¹⁸⁰

The first issue of the *Year Book* contained 102 octavo pages of text which were further divided into 347 numbered paragraphs. It was firmly based on the statistics in the *Statistical Register*, and subjects were classified in the same manner. Comment was simple, in the main drawing attention to the totals in the tables and comparing them with the Victorian figures for the previous year. In vital statistics, however, Victoria was compared with England and Wales, often over a ten year period. Apart from this exception it could be said that the *Year Book* was confined to two year periods with almost no international or inter-colonial comparisons. In succeeding years the scope and nature of the *Year Book* changed markedly. In 1874, to meet the needs for publicity at an international exhibition at Philadelphia, sections were added on discovery and early history, geography, meteorology and climate.¹⁸¹ In 1875 a much more substantial change was made: figures for the other Australasian colonies were used 'for the purpose of affording means of judging of the progress, condition, resources and comparative importance of each colony'.¹⁸² In 1877-78 the standard for comparison was widened.

. . . statistical data, not only relating to Victoria and the other Australasian colonies, but also to other British dominions and Foreign countries throughout the world. Such particulars, apart from the fact that they enhance the value of the work as one of general reference, are of great importance in showing the true position attained by this colony as compared with other portions of the civilised globe.¹⁸³

In the 1885–86 edition, Hayter indicated the wide range of official and non-official sources upon which he drew. It is worth giving in full.

In compiling the work, free use has been made, as usual, of the tables published by the Imperial Board of Trade under the direction of Mr Robert Giffen; the Reports of the Agricultural Department of the Privy Council Office; the Reports of the Registrar-General of England, Scotland and Ireland; the Reports of the Deputy Master of the London Mint; and other Imperial official documents. Occasional extracts have also been made from *The Statesman's Year-Book* (now ably conducted by Mr J. Scott Keltie); *L'Almanach de Gotha*; *McCarty's Annual Statistician* (San Francisco); *Mulhall's Dictionary of Statistics*; *Kolb's Condition of Nations*; *The Statist and British Australasian* (London Journals); *The Transactions of the Statistical Societies of London and Paris*; that excellent Melbourne publication *The Australasian Insurance and Banking Record*; and other works.¹⁸⁴

As well as the expansion in coverage in the general body of the *Year Book*, substantial appendixes on various topics were added from time to time. All this meant a great increase in size: by the end of the 1880s it was published in two volumes and the 347 paragraphs of 1873 had become 1,749.¹⁸⁵

The *Year Book* brought Hayter international acclaim and international honours.¹⁸⁶ In the 1873 edition he had viewed his task as the straightforward, impartial presentation and description of statistics. In 1879 he expressed the task of a statistical department in similar terms.

I think the primary object of a Government Statistical department is to collect material for others to deal with. The function of a Statistical department is to write reports drawing attention to various matters, and instituting comparisons, but not to go deeply into the science of statistics.¹⁸⁷

Hayter largely succeeded in his purpose. But he showed little explicit recognition that no array of statistics is impartial, that every fact is a theory. Inevitably, since one object of the *Year Book* was to publicise Victoria overseas, especially to encourage migration and investment, comment in it emphasised the virtues of Victoria as against those of other colonies. Moreover, Hayter admitted that in the *Year Book* he had gone further than simple description—'I draw inferences'.¹⁸⁸ In choosing areas for this, he was influenced both by his own competence and by prudence. He thought he had gone 'very fully' into vital statistics and crime¹⁸⁹, but as a 'Government officer' he should not argue the case of protection versus free trade.¹⁹⁰ He admitted that even the 'facts' could cause trouble.

Religious feeling runs high in Victoria, and I have shown that in some sects crime is much more prevalent than in others; that is, going a little beyond recording the facts.¹⁹¹

It was not only religious feeling that was sensitive in Australia. In the 1877–78 *Year Book*, the first to include statistics of other colonies, his facts showed that 'crime is much more prevalent in New South Wales than in Victoria'¹⁹² and he then moved on from description to explanation.

. . . the three colonies to which criminals were formerly transported, viz., New South Wales, Tasmania and Western Australia are, as will readily be supposed, those in which crime is more rife than in the remainder which have always been free from the convict taint.¹⁹³

To some extent Hayter's *Year Book* was a product of inter-colonial rivalry and competition.¹⁹⁴ Its success and prestige as a stimulating record of facts, not to mention the scope it gave for pressing Victoria's case, led to some resentment, especially in New South Wales. It was a major factor in encouraging that State to appoint its own statistician.

T. A. COGHLAN

Born in Sydney in 1855, Timothy Coghlan was young to be appointed in 1886 as the first holder of the post of 'Government Statist of New South Wales'. The origin of the position lay in profound dissatisfaction with the quality and presentation of the New South Wales statistics, especially as compared with those of Victoria. In 1886 Henry Parkes summarised the background.

Some four or five years ago provision was made in the Appropriation Act for the salary of a government statist. Year after year we have had prepared a large volume of statistical tables—a very inconvenient volume, arranged in a very unscientific, not to say clumsy manner; and the object of the provision in the Appropriation Act to which I refer was that we might get some officer who would give parliament and the country something like a lucid exposition of the growth of the colony. Every one must see what a great advantage it would be if we had that work properly done—that must be seen very clearly when we compare our so-called *Statistical Register* with the book which is issued in Victoria.¹⁹⁵

Finding a suitable person was difficult, and consideration was given to seeking out an Englishman. What the office required said George Dibbs, the Colonial Secretary, was 'a man of peculiar talents . . .'.¹⁹⁶ And certainly this is how Coghlan's qualifications were later to strike opponents of his appointment. Dibbs described him thus:

Mr Coghlan was assistant engineer in the Harbours and Rivers Department. He is a member of the Institute of Civil Engineers, and I am informed a good mathematician, and has some literary attainments.¹⁹⁷

Although his career as engineer had been most distinguished, there is little indication in the formal outline of his background of the qualities required of a government statist. To explain his change of direction, Coghlan simply says that he felt 'his calling was statistics and not engineering . . .'.¹⁹⁸ Dibbs maintained that Coghlan was the best applicant, but certainly Coghlan had been able to establish personal contact with Dibbs who, Coghlan said, 'adopted him as his protégé'.¹⁹⁹ Perhaps to appease critics, he was appointed on probation for two years.

The selection of Coghlan (at almost twice his previous salary), the establishment of the Statist's Office separate from the Registrar General and demands for economy, combined to make his appointment a short-run cause célèbre. It forced Dibbs' temporary resignation, and Coghlan says his first six months were 'chaos', and that for most of that period five of his seven clerks remained unpaid.²⁰⁰ Immediately on his appointment Coghlan was sent to Melbourne to study 'the working of the Statistical Department . . .'.²⁰¹



T. A. Coghlan
National Library of Australia

In this background there is little to indicate that within a few years Coghlan would be acknowledged as a master statistician. He not only produced official statistics, he commented and analysed. Yet statistics were only part of his interests, and by the start of the 1890s he had emerged as an outstanding public servant and adviser to government on economic and financial matters.

In the statistical field, the rapidity with which he wrought changes in the official statistics is remarkable. Within eighteen months of his appointment, publications began to testify to his statistical ability and to his vision of New South Wales society and economy. The developments in New South Wales official statistics will be examined through their production in four channels: the *Statistical Register*; the census report; *The Wealth and Progress of New South Wales*; and *The Seven Colonies of Australasia*.

New South Wales Statistical Register

Coghlan inherited a *Statistical Register* which, in its basic structure had not changed since Rolleston had arranged the 1862 edition into six subject areas: Religion, Education and Crime; Trade and Commerce; Mills and Manufactures; Monetary and Financial; Production; Miscellaneous. The 214 foolscap pages of the 1862 issue had become 370 in 1885. Precedent seems to have ruled, while the *Statistical Register* grew in size; old categories remained and new statistics were pressed into the old framework. In effect, it had become a jumble of information.

The 1886 *Register*, the first to be issued from the office of the Government Statist, was transformed. Although it was only slightly larger in size than the 1885 volume and presented much the same statistics, what stands out was the systematic and orderly presentation of information. It is possible here only to highlight a few of the more obvious changes. The category Religion, Education and Crime (a remarkable group!) was divided into two—Education, Religion and Charities, and Crime and Civil Justice. In the latter, crime statistics were arranged logically and Civil Justice had been moved from Miscellaneous. In the section Population, Immigration and Vital Statistics there were much more detailed vital statistics, and the price and wage statistics were removed. In Trade and Commerce the listing of imports and exports remained alphabetical, but there was more commodity detail and grouping was under more obvious names. There was a complete reclassification of manufacturing industries. Monetary and Financial for the first time included tables of government revenue and expenditure.

1886 was the year of greatest change: later years built on this framework. The 1889 edition was produced as an octavo volume of 594 pages with the advice that since it contained statistics only, it 'should therefore be read in conjunction with the "Wealth and Progress of New South Wales"'.²⁰² Coghlan maintained the awkward octavo format and his last volume for 1904 reached 1,251 pages. By then, the eight section classification of 1886 had become fourteen with a number of sub-divisions. The great expansion reflected new material: there was, for instance, a section of 88 pages on industrial wages; but the growth also resulted from the desire for better and more detailed figures.

The new *Statistical Register* was well received. From the beginning of 1896 it appears not to have been completely under his direction; then, because of the pressure of other public service work, he reduced his statistical activities by giving up 'the immediate control of the compilation of the *Statistical Register* . . .'.²⁰³ Assessing the publication, Coghlan was well satisfied. He thought it had been 'recognised as, if not the best, amongst the best purely statistical registers published in any country'.²⁰⁴

The 1891 Census

For the 1891 census the colonies agreed on a common day, on a common core to the schedules and on the compilation of the returns on a uniform principle. This was an important achievement, and it meant that the major stumbling block for uniformity at the 1881 census, a common occupational classification, had been overcome. Agreement to use a common occupational classification in 1891 was significant, and not just because uniformity was desirable and the classification itself was an improvement on the old method. The new classification had been formulated by Coghlan and R.M. Johnston, the Tasmanian statistician²⁰⁵, and had been opposed by Hayter. Its introduction symbolised the end of about forty years of statistical leadership from Victoria.

The occupational question was probably the most difficult one for the census-takers. Broadly speaking, the two main and related problems were to define occupations in an identifiable way and to classify them to permit useful conclusions. In 1851 in England, William Farr's occupational classification was adopted. It was based in the main on the materials used, because Farr, with his interest in medical statistics, thought a worker's materials were an important determinant of his health. In other words, he saw the census as yielding significant information on occupational morbidity and mortality. As we have seen William Archer, straight from England and with his own actuarial background, adopted (with some modification) the Farr system for Victoria in the 1854 census. Victoria maintained this system up to 1881, when all the other colonies, except New South Wales, agreed to follow the Victorian system.

At the pre-census conference of colonial statisticians at Hobart in March 1890, with Hayter as president, Johnston and Coghlan were deputed to draw up an entirely new occupational classification. Their position had been strengthened by strong criticism in England of the Farr system, and the use by Scotland of its own method in 1871. In particular, what undermined Hayter's position was the fact of England's partial departure from the Farr system at its 1881 census. The main change which was then made related to a new distinction between the 'occupied' and the 'unoccupied' population.²⁰⁶ In Hobart, Johnston developed his criticism of the Farr system along these lines:

... so far as minor groups or combinations are concerned this method was fairly successful, but as regards the principal classes of workers it could not form a guiding principle; for it is obvious that all classes of workers must often be related to the self-same materials, and separation into principal Classes could not possibly be based successfully upon this method. It is not surprising, therefore, that Dr Farr's classification should present many defects and anomalies. For example, Class II.—Domestic, and Class VI.—Indefinite and Non-Productive, hopelessly mixed up Breadwinners and Dependents. Similarly, Primary Producers, Distributors, and Manufacturers were indifferently mixed together under three very distinct Classes—viz., Commercial, Class III.; Agricultural and Pastoral, Class IV.; and Industrial, Class V. It is apparent that the lack of any clearly recognised principle for determining the limits of the great Classes themselves led the original Classifier into great perplexities; for we find *Fishermen, Veterinary Surgeon, and Farrier* grouped under Class *Agricultural and Pastoral*; *Chimney-sweep* grouped under workers in *Coal*; and the *Miner, Quarryman*, and other *Primary Producers* are found classed together with a moiety of the *Dealers*, along with *Night-soilmen, Artizans, and Manufacturers*.²⁰⁷

Coghlan, much more aggressively, defended past practice in New South Wales, and attacked the Farr system and Hayter's use of it.

[In N.S.W. in 1881] a very different system was adopted, which, though marked by many imperfections, was a distinct improvement on all preceding attempts, and in many important particulars was superior to the pretentious classification adopted in the other colonies, which was merely a servile adaptation of the system employed at the previous English census.²⁰⁸

Moreover, he continued, Hayter's proposal to use the Farr system in 1891, would 'commit these colonies to the principle of remaining ten years behind the English compilers'.²⁰⁹

In drawing up their classification of occupations, Coghlan and Johnston were guided by some very general classificatory principles devised by Johnston²¹⁰, but more specific information is not available. They did not intend their classification to be used for medical purposes, but, in Johnston's words, to 'more fully meet the wants of the social economist and statesman . . .'.²¹¹ The result was, according to Coghlan, 'not based on any previous system, and if there was any such it was unknown to the Conference'.²¹² It consisted of seven classes divided into twenty-four orders and one hundred and nine sub-orders; sub-orders were divided into groups of occupations which were named at the conference, but whose adoption was left to individual statisticians.²¹³ To capture the essence of the change, Johnston's description of the main classes is set out below.

The amended Classification is divided into seven principal classes. The first six embrace all independent *Breadwinners*; the seventh, or last class embracing all *Dependants*. The three important classes related to *Materials* are kept separate by regard to the relationship which their *differing services* bear to the materials which pass through their hands. Thus, Primary Producers of Raw Materials directly acquired by labour from natural sources, bring naturally into one class (Class V.) those engaged in Agriculture, Grazing, Fishing, Hunting, and Mining. Transporters, Dealers or Distributors, who effect no material change in Producers' materials, come naturally together in Class Commercial (Class III.); while all skilled, and unskilled modifiers or constructors of materials, in a similar way, come naturally together in Class Industrial (Class V.).

The Domestic Class (Class II.) no longer includes wives and others engaged at home in domestic duties for which no remuneration is paid, nor dependent relatives or children.

The Professional Class (Class I.) only includes those ministering to Religion, Charity, Education, Art, Science, and Amusement, and those connected with the General and Local Government, and in Defence, Law, and Protection.²¹⁴

Johnston did not mention the rather awkward but inevitable 'Class VI.—Indefinite', which consisted of 'persons whose occupations are undefined or unknown . . .'.²¹⁵

Of the Australian colonies, Queensland and Western Australia did not attend the Hobart conference, but all followed its recommendations concerning collection and compilation. The new classification of occupations was substantially followed at the first Commonwealth Census in 1911.

Coghlan made a General Report ('Illustrated with Maps and Diagrams') on the 1891 census of New South Wales.²¹⁶ It was the most comprehensive and longest (334 pages) statistical report on a census in the Australian colonies. It included an account of the taking of the census, but this was almost incidental to his analysis of the findings. The analysis was characterised by a strong historical emphasis, and in particular there was a masterly account of the growth of population in New South Wales since 1788. Thrown in was a chapter on the history of life tables and the construction of one for New South Wales. For good measure, the last chapter consisted of humorous anecdotes from the census.

A New South Wales Year Book

Coghlan's first *Year Book*, published in 1887, was entitled *The Wealth and Progress of New South Wales 1886-87*. It began a series with this title and produced by him of thirteen issues, the last being for the year 1900-01. The first paragraph of the first volume suggests both the historical approach adopted and an important impulse behind the work.

The following pages, which are designed to trace the progress of the Colony during the first century of its history, show that New South Wales maintains its position as the leading province of the Australasian Group.²¹⁷

Early progress, Coghlan continued, would be dealt with 'in the form of an historical sketch', but since the separation of Queensland in 1859, the period 'has been treated statistically'.²¹⁸

In the succeeding volume for 1887-88, Coghlan remarked on the 'uneventful' nature of Australasian history, so that 'the history of this continent is comprised almost entirely in that of its industrial progress'.²¹⁹ By implication, a *Year Book* such as his own, dealt with the essence of Australasian history. And, he continued, in explanation of the title of his series: 'To illustrate the wealth and trace the progress of the Colony is the aim of this volume . . .'.²²⁰ The list of contents in this issue, consisting of twenty-three individual chapters, shows that Coghlan was able to deal with topics in a much more natural manner than Hayter. The *Victorian Year Book* was constructed in the same manner as the *Statistical Register*, so that topics were constrained into eight groups. Coghlan was able to devote eight chapters to the relatively unchanging information of the broadly historical and geographical type, whereas Hayter combined this material in a few sketchy pages.

In the fourth year of issue, 1889-90, Coghlan was able to make a significant change in method of presentation because of the production of a new companion volume.

The necessity of comparing the progress of New South Wales with that of the other Colonies, except on the most important points, is obviated by the publication of 'The Seven Colonies of Australasia,' which deals with the Colonies as a whole, as well as with their individual resources.²²¹

Comparative material remained in the local volume, but emphasis could be placed very firmly on developments in New South Wales itself. Lacking the encyclopedic comprehensiveness of Hayter's volume, the work seems more purposeful. In Coghlan's discussion of the statistics, there is of course a good deal of formal comment — a noting of the figures and brief description of institutions. But the overall impression is of the authoritative handling of the material, as Coghlan shows himself to be historian, economist and man of affairs in administration and politics. Take the example of one of Coghlan's central concerns. In 1888-89 begins a historical discussion of real wages through a focus on money wages and prices. In 1890-91 this becomes a seventeen page section of a new chapter headed 'Industrial Progress', which historically 'is naturally divided into eight periods, each with some distinguishing characteristic . . .'.²²² In 1894 'Industrial Progress' becomes 'Industrial History' and warrants a full chapter of sixty-three pages; it has now broadened, but its final thrust is still 'the condition of the workers'.²²³ What can be seen developing within the framework of the official *Year Book* is the genesis of Coghlan's great historical work, not published until 1918, *Labour and Industry in Australia*.²²⁴

Throughout the thirteen editions there was a massive accumulation of statistical information, with comment, about New South Wales. Information was broadened in scope and extended in time. Primary statistical material was moulded into such constructs as real wages, export price indexes and even estimates of the national income of New South Wales. It meant, of course, a great growth in size of *Wealth and Progress*. The 577 pages of 1886-87 had become 968 by 1892; in 1893 about one-third more print was fitted to the page, and the 828 pages of that year grew to 1,043 by 1900-01.

Coghlan gave New South Wales the *Year Book* it sought. The fourth issue was greeted by the *Sydney Morning Herald*:

The great statistical handbook of the Colony, which has now become invaluable as a book of reference . . . nearly 900 pages full of information upon every point relating to the material, physical, and moral welfare of the people of this colony . . . pages of interesting explanatory letterpress, by which the points brought out in the various tables quoted are emphasised in an instructive way.²²⁵

In Victoria, on the other hand, all was not well with the *Year Book*. Hayter died in office in 1895 after some years of ill-health and financial problems, and economies meant it was a number of years before a new government statist was appointed; indeed, there was no issue of the *Year Book* between No. 21 of 1894 and No. 22 of 1895-98. In 1886 it was Parkes in the New South Wales parliament who had deplored his State's backwardness: in 1895 it was the turn of a Victorian parliamentarian.

He . . . believed the Government Statist of New South Wales was paid £800 a year, and, judged by the way in which he had managed his business, Mr. Coghlan had been worth £80,000 a year to New South Wales, because he had published works which had been most magnificent advertisements for that colony, just as in the olden times Mr. Hayter's publications did magnificent work for this colony. He . . . esteemed Mr. Hayter very much, but towards the end of that gentleman's career he did not retain his initial vigour, and there were defects in the *Year Book* which ought to be remedied forthwith.²²⁶

An Australasian Year Book

Coghlan's decision to begin a new series of *Year Books* covering all the colonies has been noted. The first issue for 1890 was entitled *A Statistical Account of the Seven Colonies of Australasia*. The series, consisting of eleven editions, ended in 1902-03, the last two, in deference to the fact of Federation, being called *A Statistical Account of Australia and New Zealand*.

In the first issue Coghlan set out the purpose of the series.

To afford information by which the progress of these Colonies may be gauged is the object of the present work, which aims to exhibit at a glance the position held by each Colony individually, and by the country as a whole, with regard to all matters connected with its moral and material welfare. Such an account cannot fail to be of interest — so much has been attempted in directions in which old-world experience was of little avail, and so much has been accomplished in the development of the material resources of a new land, and the social well-being of its people.²²⁷

It was a smallish volume of 186 octavo pages in which the contents were divided, and the commentary made, in much the same way as in *Wealth and Progress*. There were also 'Concluding Remarks' which express the emotion and confidence of 1890.

Enough has been said, however, to show how these great Colonies, from the humblest beginnings, have grown and expanded into important provinces, peopled with a race of hardy, enterprising, and industrious colonists, with free institutions such as are enjoyed by few nations in the old world, and without those social and caste impediments which are in older countries so great a hindrance to the march of civilization.²²⁸

Succeeding issues of this series reflect Coghlan's increasing knowledge and maturity in much the same way as did developments in *Wealth and Progress*. New topics were added and significant interpretative essays were built around the tables of figures in such areas as capital imports and land settlement. Inevitably, the size of the volume grew, reaching 543 pages by the seventh issue for 1897-98. The next issue for 1899-

1900 with 836 pages was much larger: the imminence of Federation induced Coghlan to insert historical chapters on all the colonies. In the 1901-02 issue Coghlan began a new chapter on the 'industrial progress' of Australasia. The final issue, dated 1 December 1904, was a voluminous 1,042 pages and included material on Federation and the Constitution. This was Coghlan's last *Year Book*: he left for England two months later. It could be seen as a monument to his work: a mass of statistical information, coherently ordered and arranged, and always accompanied by authoritative discussion and interpretation. The end of the series left a gap which was only partly filled by the first Commonwealth *Year Book* in 1908.

CONCLUSION

It is not simply local pride and hyperbole that have judged the official statistics of the Australian colonies in the second half of the nineteenth century to be of the highest international quality, both in content and presentation.²²⁹ What may be thought surprising is to find such an achievement in colonies remote from the main-stream of statistical development, recently settled and having just obtained self-government.

To a considerable extent the achievement was, for a number of reasons, a legacy of British colonial rule. First, the colonies had been required to produce official statistics on an annual basis; collection was not based on periodic censuses as in the United States. Second, the statistics had to be of a range and quality to satisfy the British authorities, who required them for efficient administration. Third, the statistics had to be brought together by a single officer, the local Colonial Secretary, who took some final responsibility for their accuracy and their presentation; there was therefore a central statistical authority and this contrasted markedly with the British position. Finally, the authority was required to present all the relevant statistics of the colony in a single volume—the *Blue Book*. As an offshoot of these developments, it was natural for the colonies to begin the production of a consolidated volume of annual statistics for their own use.

Self government meant the inheritance of a most favourable institutional arrangement. But adaptation and progress were not automatic: freedom and changed circumstances gave the opportunity for stagnation. That there was such a successful outcome depended on a number of factors, of which the most important was the discovery in this small community of three remarkable statisticians.

W.H. Archer, well-trained and fresh from the invigorating statistical climate of England arrived in Victoria in 1852 just as the public service was being shaped. Previously, the Colonial Secretary, as part of his numerous duties, had taken responsibility for the census, the *Blue Book* and the compilation of the statistics for local use. In the English tradition, it was probably inevitable that responsibility for the census would be given to the Registrar General's Department, but Archer's presence led to that office taking over all the statistical work done by the Colonial Secretary. At the same time, the Registrar General set up a prestigious system of recording vital statistics, and began collecting more general statistics in his own right. In Victoria, then, central statistical control was continued, and Archer's status and authority gave the Registrar General the informal mantle of government statistician. His methods and standards set the pace for the other colonies.

In 1874, in the newly-created post of Government Statist of Victoria, Henry Hayter had a more specialised role. He was no longer responsible for what was now the routine collection of vital statistics, but took charge of the census, the collection of a variety of statistics and the production of the *Statistical Register*. He maintained Victorian leadership in statistical standards, and added a new dimension to official

statistical activities through the innovation of his famous *Year Book*, which publicised Victoria through informed comment on the statistics.

Colonial governments needed good statistics. There was also early recognition that the *Statistical Registers* could be used overseas in a manner which could encourage the flow of capital and migrants. Hayter's *Year Book* went a step further in that direction. In this situation inter-colonial rivalry and competition were important in ensuring some flow-on of best statistical practice. British pressure and the natural desire to harmonise census-taking also raised census standards. Inter-colonial rivalry was greatest between Victoria and New South Wales, and was a major factor in the establishment of the post of government statist in New South Wales. Timothy Coghlan was the first appointment in 1886, and as Hayter's innovations and drive were beginning to decline, Coghlan was able to build on Hayter's work. He improved dramatically the conventional array of statistics in the New South Wales *Statistical Register*, and he made important improvements in the census schedule. His most significant achievement in official statistics was through his *Year Books*. With imagination and vision he translated the tables of figures into an interpretative picture of his society, and this involved the formulation of statistical constructs out of the raw data. Not only was this done for New South Wales, it was also extended to meet the more complex challenge of Australasia. In their genre the works are classics.

Federation on 1 January 1901 had many implications for official statistics in Australia. In the short run, a new Commonwealth Statistician could draw on the output from the centralised statistical offices in the States. It would be a challenge, however, to maintain the progress that had been achieved by his distinguished colonial predecessors.

NOTES

- ¹ *Historical Records of Australia*, Series I, Vol. I, pp. 11–12.
- ² *H.R.A.*, I, I, 14.
- ³ *H.R.A.*, I, I, 15.
- ⁴ *H.R.A.*, I, I, 52–4.
- ⁵ *H.R.A.*, I, I, 63.
- ⁶ *H.R.A.*, I, I, 80.
- ⁷ *H.R.A.*, I, I, 203.
- ⁸ *H.R.A.*, I, I, 279–82.
- ⁹ *H.R.A.*, I, I, 401–2.
- ¹⁰ *H.R.A.*, I, I, 456.
- ¹¹ *ibid.*
- ¹² *H.R.A.*, I, I, 51.
- ¹³ *H.R.A.*, I, I, 678.
- ¹⁴ *ibid.*
- ¹⁵ *H.R.A.*, I, II, 17.
- ¹⁶ *H.R.A.*, I, II, 69.
- ¹⁷ *H.R.A.*, I, III, 8.
- ¹⁸ T. A. Coghlan, *General Report on the Eleventh Census of New South Wales*, 1894, p. 48.
- ¹⁹ Coghlan, p. 51.
- ²⁰ Coghlan, p. 60.
- ²¹ Coghlan, p. 62.
- ²² Coghlan, p. 68.
- ²³ Coghlan, p. 69.
- ²⁴ *H.R.A.*, I, X, 380.
- ²⁵ *H.R.A.*, I, X, 533.
- ²⁶ Coghlan, pp. 68–9 and *N.S.W. Blue Book*, 1828, p. 146.
- ²⁷ *H.R.A.*, I, I, 651.
- ²⁸ *ibid.*
- ²⁹ S. J. Butlin, *Foundation of the Australian Monetary System 1788–1851*, Melbourne, 1953, p. 48.
- ³⁰ *H.R.A.*, I, III, 55.
- ³¹ See, e.g., *H.R.A.*, I, II, 208–9.
- ³² *H.R.A.*, I, II, 632.
- ³³ *H.R.A.*, I, X, 408.
- ³⁴ H. T. Manning, *British Colonial Government After the American Revolution 1782–1820*, New Haven, 1935, p. 483.
- ³⁵ R. W. Horton, *Exposition and Defence of Earl Bathurst's Administration of the Affairs of Canada when Colonial Secretary during the years 1822 to 1827, Inclusive*, London, 1838, p. 40. Horton was Under-secretary of the department 1822–1827.
- ³⁶ *H.R.A.*, I, XV, 239.
- ³⁷ *H.R.A.*, I, XV, 411.
- ³⁸ *British Parliamentary Papers* (H.C.), 1817, XVII (129), 231–42.
- ³⁹ *Colonial Office*, 324/104, Feb. 24, 1817.
- ⁴⁰ *H.R.A.*, I, XIV, 223.
- ⁴¹ *C.O.* 854/1, 113.
- ⁴² *H.R.A.*, I, XI, 83.
- ⁴³ *H.R.A.*, I, XI, 244.
- ⁴⁴ *H.R.A.*, I, XI, 206.
- ⁴⁵ *H.R.A.*, I, XI, 552.
- ⁴⁶ *H.R.A.*, I, XI, 252.
- ⁴⁷ *H.R.A.*, I, XIV, 222–3.
- ⁴⁸ *H.R.A.*, I, XV, 69.
- ⁴⁹ *ibid.*

- ⁵⁰ *N.S.W. Blue Book*, 1828.
- ⁵¹ *H.R.A.*, I, XVI, 99.
- ⁵² *H.R.A.*, I, XVII, 194–5.
- ⁵³ *H.R.A.*, I, XX, 579–80.
- ⁵⁴ *H.R.A.*, I, XX, 753–4.
- ⁵⁵ *H.R.A.*, I, XXI, 188.
- ⁵⁶ *H.R.A.*, I, XXI, 316–7.
- ⁵⁷ *ibid.*
- ⁵⁸ *H.R.A.*, I, XXI, 436.
- ⁵⁹ *H.R.A.*, I, XXII, 36.
- ⁶⁰ *H.R.A.*, I, XXII, 98.
- ⁶¹ *H.R.A.*, I, XXVI, 701.
- ⁶² *H.R.A.*, I, XXIII, 22–3.
- ⁶³ *C.O.*, 323/208, 72.
- ⁶⁴ *C.O.*, 323/208, 73.
- ⁶⁵ *C.O.*, 323/208, 74.
- ⁶⁶ *H.R.A.*, I, XVIII, 656–7.
- ⁶⁷ *H.R.A.*, I, XV, 69.
- ⁶⁸ *H.C.*, 1837, VII (516), p. 100.
- ⁶⁹ *ibid.*, p. 194.
- ⁷⁰ *ibid.*, p. 100.
- ⁷¹ *Statistical Register of N.S.W. from 1850 to 1859*, Registrar General's Report, p. 8.
- ⁷² N.S.W. Legislative Council, *Votes and Proceedings*, 1828, p. 43.
- ⁷³ 'Government Notice: Census for the year 1828', reprinted in Coghlan, p. 71.
- ⁷⁴ *ibid.*
- ⁷⁵ R. Montgomery Martin F. S. S., *History of Austral-Asia Comprising New South Wales, Van Diemen's Island, Swan River, South Australia, etc.*, London, 1836, p. 134.
- ⁷⁶ J. T. Danson, 'Some particulars of the Commercial Progress of the Colonial Dependencies of the United Kingdom, during the Twenty years, 1827-46', *Quarterly Journal of the Statistical Society of London*, November, 1849.
- ⁷⁷ *N.S.W. Blue Book*, 1828, p. 147.
- ⁷⁸ Ralph Mansfield, *Analytical View of the Census of New South Wales for the Year 1841; With Tables Showing the Progress of the Population during the previous Twenty Years*, Sydney, 1841, p. 3.
- ⁷⁹ Coghlan, p. 81.
- ⁸⁰ *ibid.*, p. 85.
- ⁸¹ *Census of Victoria*, 1854, Population Tables, Report, p. vi.
- ⁸² *ibid.*, p. iii.
- ⁸³ *ibid.*, p. v.
- ⁸⁴ *Government Gazette of Western Australia*, Dec. 19, 1848, p. 1.
- ⁸⁵ D. N. Allen, *The Development of Official Statistics in Tasmania* (Dissertation for Diploma of Public Administration, University of Tasmania, 1965), p. 46.
- ⁸⁶ J. Koren (ed.), *The History of Statistics: Their Development and Progress in many Countries*, New York, 1918, Chapter by A. Baines, 'Great Britain and Ireland', p. 374.
- ⁸⁷ *ibid.*, p. 385.
- ⁸⁸ *Statistical Abstract for the United Kingdom In each Year from 1840 to 1853: First Number* (1854).
- ⁸⁹ For a listing of the official publications, see Jennifer Finlayson, *Historical Statistics of Australia: A Select List of Official Sources*, Canberra, 1970.
- ⁹⁰ Anyone researching in this or related fields must be grateful for the pioneering work of Craufurd D. W. Goodwin, *Economic Enquiry in Australia*, Durham, N.C., 1966.
- ⁹¹ *Australian Dictionary of Biography*, Vol. 3, p. 41.
- ⁹² M. J. Cullen, *The Statistical Movement in Early Victorian Britain: The Foundations of Empirical Social Research*, Hassocks, Sussex, 1975, Preface. H. Westergaard refers to the period 1830–49 as 'The Era of Enthusiasm' in which 'the most conspicuous progress was made in England', p. 137 of *Contributions to the History of Statistics* (First Edition, 1932. Reprinted 1968 by Augustus M. Kelley, New York).
- ⁹³ Cullen, *Statistical Movement*, p. 93.

- ⁹⁴ *ibid.*, p. 102.
- ⁹⁵ W. H. Archer Papers, National Library of Australia, MS 105/1, p. 21.
- ⁹⁶ 'This very gold of course has enabled us to *buy* (and I purposely put it in this vulgar but sound light) appropriate talent in every department of our Government', H. S. Chapman, (Attorney-General of Victoria, 1857-59) addressing the London Statistical Society. This statement immediately followed a reference to Archer. See 'The Industrial Progress of Victoria as connected with its Gold Mining'. *Journal of the Statistical Society of London*, 26, 1863, p. 426.
- ⁹⁷ 16 Vic., No. 26.
- ⁹⁸ *Report from the Select Committee of the Legislative Council on Agricultural and Horticultural Statistics*, 1856, p. 20. Statistical Memoranda of Mr Assistant Registrar-General Archer.
- ⁹⁹ Archer Papers, NLA, MS 105/3.
- ¹⁰⁰ Written on the back of the first page of Archer's submission, dated 29 March and signed by the Colonial Secretary, *ibid.*, MS 105/1.
- ¹⁰¹ *ibid.*, MS 105/3.
- ¹⁰² *ibid.*, MS 105/1, p. 2.
- ¹⁰³ Cited in *The Statistical Register of Victoria, From the Foundation of the Colony with an Astronomical Calendar for 1855*, p. 112.
- ¹⁰⁴ Archer Papers, NLA, MS 105/1, p. 4. Here, as an example, are Archer's comments on the proposed Births Schedule.
- 1 The birth place of the parents is omitted.
- 2 The marriage place of the parents is not given.
- 3 The number and sex of former children are omitted.
- 4 The Certificate of the Accoucheur, Nurse or other person present, is omitted.
- 5 The place of registry is omitted.' *ibid.*, p. 3.
- ¹⁰⁵ *ibid.*, MS 105/1, p. 9.
- ¹⁰⁶ *ibid.*, MS 105/3.
- ¹⁰⁷ *ibid.*
- ¹⁰⁸ Archer's workbook headed 'Desiderata and Agenda', *ibid.*, MS 105/5, 3 August 1853.
- ¹⁰⁹ *Australian Dictionary of Biography*, Vol. 3, p. 345.
- ¹¹⁰ Archer Papers, NLA, see e.g. MS 105/18.
- ¹¹¹ *Report from the Select Committee of the Legislative Council on Agricultural and Horticultural Statistics*, 1856. Evidence of W. H. Archer, p. 2.
- ¹¹² *ibid.* Archer could not always pick and choose. His problems are suggested by his assessment of one of his early selections.
- He has much improved and evidently bestows great pains on them [the Registers]. He has a prosperous Store, frequented by the people round about for miles. He is postmaster also; and has a horse upon which he goes about in search of cases of birth etc. He is evidently very painstaking and desirous to succeed. The only objection, and a very serious one, is his bad spelling; but constant reference to a Dictionary and Gazetteer has already done much for him and provided he is well looked-after, I have considerable hopes that he may yet turn out well. There appears a difficulty in getting anyone more eligible in his neighbourhood in spite of his defects . . . His next return will enable us to decide what course to pursue.
- Archer Papers, NLA, MS 264/15.
- ¹¹³ *Births, Deaths, and Marriages in the Colony of Victoria During the Year Ending 30th June 1854*, First Annual Report, p.v.
- ¹¹⁴ Archer Papers, NLA, MS 105/18, 30 Jan., 1854.
- ¹¹⁵ *The Statistical Register of Victoria, From the Foundation of the Colony with an Astronomical Calendar for 1855*, p. 121.
- ¹¹⁶ *Statistics of the Colony of Victoria for the Year 1852*, p. 5.
- ¹¹⁷ *ibid.*
- ¹¹⁸ Victorian Government Printer, 1854.
- ¹¹⁹ *ibid.*, Preface. This was the only volume in the projected series. It could be regarded as a forerunner of the 'Year Book', developed later in the century, but it also bore strong resemblance to the almanac, a form of annual publication very popular at the time.
- ¹²⁰ *Statistics of the Colony of Victoria for the Year 1853*, p. 5.
- ¹²¹ *Births, Deaths, and Marriages in the Colony of Victoria During the Year Ending 30th June 1854*, First Annual Report, p.v.
- ¹²² *Statistics of the Colony of Victoria for the Year 1854*, p. 5. Report of the Registrar-General.

- ¹²³ *Statistics of the Colony of Victoria for the Year 1855*, p. 111.
- ¹²⁴ *Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March 1858*, Report, p. 8.
- ¹²⁵ *Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March 1863*, Report, p. vi.
- ¹²⁶ The optimistic 'Religious, Moral and Intellectual Progress' became 'Social Conditions' in 1886.
- ¹²⁷ The Registrar-General's Department was divided into three branches. In 1858-59 the permanent staff of the Statistics Branch consisted of two clerks. Civil Service Commission, *Report of the Commissioners*, 1859, pp. 36-7.
- ¹²⁸ *Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March 1863*, pp. 112-13.
- ¹²⁹ *Victoria, Parliamentary Debates*, Vol. 7, 1869, pp. 147-8, p. 892.
- ¹³⁰ H. H. Hayter, 'The Colony of Victoria: Its Progress and Present Position', *Journal of the Statistical Society*, Vol. XLII, 1879, p. 404.
- ¹³¹ *Statistical Register of New South Wales*, 1858, Report, p. 1.
- ¹³² W. H. Archer Papers, University of Melbourne Archives, 2/169/3, Letter dated 30 August 1858.
- ¹³³ *ibid.*, 2/169/4, Letter dated 31 January 1859.
- ¹³⁴ *Statistical Register of New South Wales*, 1859, Report, p. 1.
- ¹³⁵ *ibid.*
- ¹³⁶ *ibid.*
- ¹³⁷ *ibid.*, 1862, p. 36.
- ¹³⁸ *Statistical Register of Queensland*, 1860, Report, p. v.
- ¹³⁹ *Statistical Register of South Australia*, 1859, Report, p. iii.
- ¹⁴⁰ *ibid.*
- ¹⁴¹ *ibid.*, 1860, pp. iii and iv.
- ¹⁴² *ibid.*, p. iii.
- ¹⁴³ *ibid.*
- ¹⁴⁴ Archer Papers, University of Melbourne Archives, 2/63/1. Archer to Farr, 17 August 1859.
- ¹⁴⁵ *Statistical Register of South Australia*, 1861, Report, p. iii.
- ¹⁴⁶ Australian Statistical Conference held in Melbourne, 1861. Minutes. No report of the meeting has been found. The above is based on what appears to be a shorthand record. The South Australian representative later quoted Archer with approval: 'It would be premature for me to enter on a description of our proposed future publications; but I may mention, that henceforth the Statistic Year Books of New South Wales, South Australia, Queensland, and Victoria will, in the main, accord in their groupings . . .'. (*Statistical Register of South Australia*, 1861, Report, p. iii.) Archer's intention is presumably reflected in the arrangement of contents in the *Victorian Statistics* for 1861.
- ¹⁴⁷ *Census of Victoria*, 1854, Population Tables, Report, p. v.
- ¹⁴⁸ *ibid.*, p. iii.
- ¹⁴⁹ *ibid.*
- ¹⁵⁰ *ibid.*, 1857, Population Tables, Report, *passim*.
- ¹⁵¹ Archer Papers, University of Melbourne Archives, 2/63/1. Letter to W. Farr dated 17 August 1859. See also *Statistical Register of New South Wales*, 1858, Report, p. 29; *Census of Victoria*, 1857, Population Tables, Report, p. 7.
- ¹⁵² *Census of the Province of South Australia*, 1861, Report, p. v.
- ¹⁵³ *ibid.*, p. xi.
- ¹⁵⁴ Archer Papers, NLA, MS 105/5, 3 August 1853. This is Archer's recollection of the governor's words.
- ¹⁵⁵ Farr Collection, Vol. 1, Item 5, folios 8-9. (Held at British Library of Political and Economic Science.)
- ¹⁵⁶ Official Statistics Committee, *British Parliamentary Papers* (H.C.), 1881, Vol. XXX. Minutes of Evidence, Evidence of H. H. Hayter, 7 April 1879, paras. 968-9.
- ¹⁵⁷ W. H. Archer, *The Progress of Victoria: A Statistical Essay*, 1873, p. 3
- ¹⁵⁸ *Australian Dictionary of Biography*, Vol. 4, pp. 366-7.
- ¹⁵⁹ His report may be seen in *Agricultural and Live Stock Statistics for Victoria for the Year Ending 31st March, 1859*, Report.
- ¹⁶⁰ Hayter's words. See *Official Statistics*, p. 22. Presidential Address, Section F, Australasian Association for the Advancement of Science, 1888.
- ¹⁶¹ *Victoria, Parliamentary Debates*, Vol. 18, 1874, p. 336.
- ¹⁶² Official Statistics Committee . . . , Evidence of H. H. Hayter, *passim*.
- ¹⁶³ *ibid.*, paras 955-7.
- ¹⁶⁴ *ibid.*, Third Report, p. xviii.

- ¹⁶⁵ *ibid.*
- ¹⁶⁶ Hayter listed together the five continental colonies separately from the two island colonies of Tasmania and New Zealand. 'Australasian Statistics for the Year 1873.'
- ¹⁶⁷ *ibid.*, p. 7.
- ¹⁶⁸ *ibid.*, p. 8.
- ¹⁶⁹ Victoria, *Report of the Conference of Government Statists*, 1875.
- ¹⁷⁰ Official Statistics Committee . . . , Evidence of H. H. Hayter, para. 967.
- ¹⁷¹ *ibid.*, para. 924.
- ¹⁷² *Census of Victoria*, 1881, General Report, p. 10.
- ¹⁷³ Apparently it was used in Bavaria in 1871, *Census of the Commonwealth of Australia*, 1911, Statistician's Report, p. 15.
- ¹⁷⁴ *Census of Victoria*, 1881, General Report, p. 12.
- ¹⁷⁵ Official Statistics Committee . . . , Evidence of H. H. Hayter, para. 973.
- ¹⁷⁶ *Statistics of the Colony of Victoria for the Year 1873*, Report, p. 7.
- ¹⁷⁷ *ibid.*
- ¹⁷⁸ *Victorian Year Book Containing a Digest of the Statistics of the Colony for the Year 1873* by Henry Heylyn Hayter.
- ¹⁷⁹ *ibid.*, Preface, p. iii.
- ¹⁸⁰ *ibid.*, pp. iii-iv.
- ¹⁸¹ *Victorian Year Book*, 1874, Preface.
- ¹⁸² *ibid.*, 1875, Preface, p. iii.
- ¹⁸³ *ibid.*, 1877-78, Preface, p. iii.
- ¹⁸⁴ *ibid.*, 1885-86, Preface, p. iv.
- ¹⁸⁵ *ibid.*, 1889-90.
- ¹⁸⁶ William Newmarch reviewed the 1878 edition at a meeting of the Statistical Society in London. His view was summarised thus:
- The handbook is almost a perfect model of what such a publication should be. The contents are most carefully classified according to subjects, and the tabular details are arranged scientifically and skilfully. There is also as much descriptive discussion as is required to bring out the true bearing of the figures. The speaker said it had been his painful duty to examine handbooks, official and otherwise, and to be afflicted by the careless and unskilful manner in which they were framed. But Mr. Hayter's work, on the contrary, was not marked by any of these defects, and Mr. Newmarch would go so far as to say, that the statistical department of the Imperial Government might with advantage follow to a large extent in Mr. Hayter's steps, and profit by his example.
- Journal of the Statistical Society*, Vol. XLI, 1878, p. 160.
- ¹⁸⁷ Official Statistics Committee . . . , Evidence of H. H. Hayter, para. 1096.
- ¹⁸⁸ *ibid.*, para. 1098.
- ¹⁸⁹ *ibid.*, para. 1102.
- ¹⁹⁰ *ibid.*, para. 1100.
- ¹⁹¹ *ibid.*, para. 1103.
- ¹⁹² *Victorian Year Book*, 1877-78, para. 563.
- ¹⁹³ *ibid.*, para. 565. The Tasmanian statist commented on a table of Hayter's which showed crude death rates in five Australian capital cities: ' . . . it is natural for ordinary persons to conclude that this is a record or index of the comparative health of these cities; and if it be not so they may well exclaim, for what other purpose are they shown?' Age standardisation, said the Tasmanian statist, changed Hobart's position from the highest to the lowest death rate. *Statistics of the Colony of Tasmania*, 1887, Report, p. xxvi.
- ¹⁹⁴ Hayter was free with his criticisms, usually justified, of statistics in other colonies. Sometimes there were problems with his own calculations. For instance, in estimating the value of private wealth in Victoria, he took 'the average amount left by each person dying [as] equivalent to the average amount possessed by each person living'. There are obvious problems here apart from Hayter noticing that his most recent figures were probably affected by 'several large estates'. *Victorian Year Book*, 1888-89, para. 911.
- ¹⁹⁵ *N.S.W. Parliamentary Debates*, Vol. 20, 1885-86, p. 2557. Parkes was a dominating figure in New South Wales politics and five times Premier of that State.
- ¹⁹⁶ *ibid.*, p. 2558.
- ¹⁹⁷ *ibid.*, Vol. 21, p. 3374.
- ¹⁹⁸ From document headed 'Autobiography of my father, the late Sir Timothy Coghlan, I.S.O., K.C.M.G. copied by me from his manuscript. Austin Coghlan', p. 2. (Coghlan Papers, National Library of Australia, MS6335.)

- ¹⁹⁹ *ibid.*, p. 3.
- ²⁰⁰ *ibid.*
- ²⁰¹ *N.S.W. Parliamentary Debates*, Vol. 21, 1885–86, p. 3374. Statement by George Dibbs.
- ²⁰² *Statistical Register of New South Wales*, 1889, Preface.
- ²⁰³ 'Autobiography', p. 8.
- ²⁰⁴ *ibid.*
- ²⁰⁵ R. M. Johnston was Tasmanian statistician and registrar general from 1882 to 1918. He was a most productive and original worker in both the natural and social sciences. Although he made a number of contributions to the development of official statistics, his wide range of interests and his self-chosen, relative isolation in Tasmania meant that he stood slightly out of the main stream of influence.
- ²⁰⁶ The largest group affected by the new classification was wives. For a discussion of the reasons for the classification of women in censuses in Australia and England, see Desley Deacon, 'Political Arithmetic: The Woman', *Signs: Journal of Women in Culture and Society*, Autumn 1985, Vol. II, No. 1. Also, F. L. Jones, 'Is it True What They Said About Women: The Census 1801–1911, and Women in the Economy', *Working Papers in Economic History*, Australian National University, No. 23, May 1984.
- ²⁰⁷ *Covering Letter Accompanying Report of Conference of Statists*, 19 March 1890, p. iii.
- ²⁰⁸ *N.S.W., Census of 1891*, Statistician's Report, p. 270.
- ²⁰⁹ *ibid.*
- ²¹⁰ *ibid.*, pp. 271–2.
- ²¹¹ *Covering Letter . . .*, p. iv.
- ²¹² *N.S.W., Census of 1891*, Statistician's Report, p. 270. Coghlan claimed that the new scheme 'was called in European economic circles the Australian System'. 'Autobiography', p. 11.
- ²¹³ *N.S.W., Census of 1891*, Statisticians's Report, p. 273.
- ²¹⁴ *Covering Letter . . .*, p. iv.
- ²¹⁵ *ibid.*, p. xvii.
- ²¹⁶ *General Report on the Eleventh Census of New South Wales*, 1894.
- ²¹⁷ *The Wealth and Progress of New South Wales, 1886–87*, Preface.
- ²¹⁸ *ibid.*
- ²¹⁹ *The Wealth and Progress of New South Wales, 1887–88*, Preface.
- ²²⁰ *ibid.* Coghlan says he submitted 'seven or eight names' as possible titles for his year book to the Premier, Sir Henry Parkes, who made the final choice. 'Autobiography', p. 3.
- ²²¹ *The Wealth and Progress of New South Wales, 1889–90*, Preface.
- ²²² *The Wealth and Progress of New South Wales, 1890–91*, p. 676.
- ²²³ *The Wealth and Progress of New South Wales, 1894*, p. 457.
- ²²⁴ Oxford University Press, 1918.
- ²²⁵ *Sydney Morning Herald*, 8 December 1891, p. 5.
- ²²⁶ *Victoria, Parliamentary Debates*, Vol. LXXVIII, 1895–6, p. 2301, Mr. Rogers.
- ²²⁷ *A Statistical Account of the Seven Colonies of Australasia*, 1890, Preface.
- ²²⁸ *ibid.*, p. 179.
- ²²⁹ H. W. Arndt claims that Coghlan 'made New South Wales for a time the country with the best official statistics in the world'. See 'A Pioneer of National Income Estimates', *Economic Journal*, December 1949, p. 616. More generally, N. G. Butlin writes: 'Few, if any, countries in the world can claim to possess official statistics comparable to those of Australia during the years 1861–1939'. See *Australian Domestic Product, Investment and Foreign Borrowing 1861–1938/39*, Cambridge, 1962, p. xv.